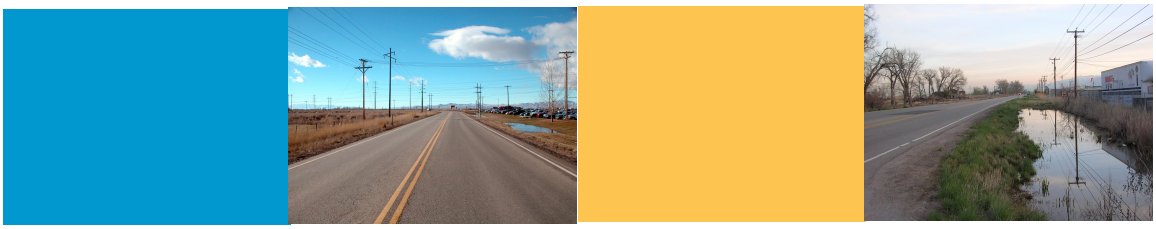
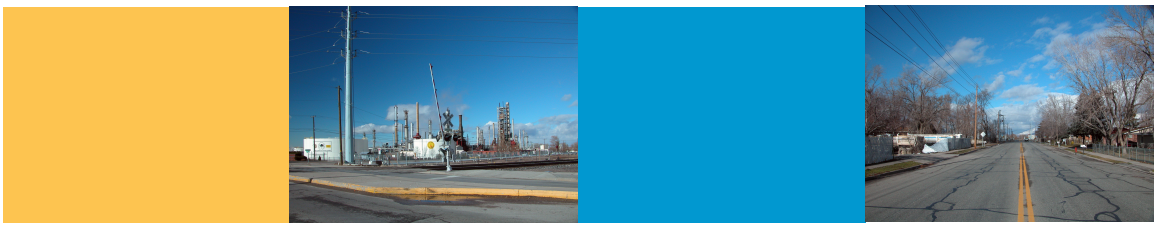


SR-68, 2600 South to I-15 in Davis County
Alternative Development Report



July 2006
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2600 South to I-15 in Davis County

State Project No. SP-STP-0068(21)68E

SR-68
2600 South
to I-15 in Davis County

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INTRODUCTION

This document will provide a general description of the alternatives considered for the SR-68, 500 South Corridor, a description of the alternatives that have been considered but were eliminated from further consideration, the methodology and criteria used to develop and evaluate alternatives, and a general description of the alternatives currently under consideration. This document is outlined as follows:

- The SR-68 Project Purpose and Alternative Evaluation Criteria
- Future Transportation Conditions
- The No Build Alternative
- Evaluation Process and Alternatives Developed

Executive Summary

The project purpose and needs were identified based on information obtained through stakeholder input, traffic analysis, geometric assessment, and field reviews. The needs identified for the project area are:

- Improve future corridor mobility and accommodate future travel demand through the design year 2030
- Provide safe and efficient connections to nearby transportation facilities (transit, freeways, highways, and trail systems)
- Correct geometric and drainage problems
- Serve as an asset to the Cities of Woods Cross and West Bountiful

The future transportation conditions for the project area were determined (more detailed information is found in the *SR-68, 2600 south to I-15 in Davis County Traffic Report*). Through coordination with project stakeholders, including the public, alternatives were suggested to address public concerns along the corridor. These alternatives were screened to determine if the project's purpose and need statements were satisfied. Measurements of effectiveness were established for each purpose and need statement and other project objectives. These are listed in Table 1.1. If the suggested alternatives did not meet the measures of effectiveness, these alternatives were screened out or combined with other possible build alternatives. As outlined in Figure A-1: Build Alternative Screening Process Flow Chart found in Appendix A, a process was followed to determine appropriate alternatives based on their ability to meet the project purpose and needs. It was determined that the No Build Alternative would not meet the project needs but is kept due to NEPA regulations. Build alternatives were then developed to meet those needs. The alternatives that would meet the project needs were advanced and an evaluation was completed to determine the

number of impacts. Figure A-2 "Summary of Alternative Progression" provides a summary of the reasons for screening out or progressing suggested solutions.

Based on the screening and impact analysis, the following characteristics are summarized as the build alternative for the project area:

- Provide a 5-lane corridor with an at-grade crossing of the Union Pacific Railroad (UPRR)/Commuter Rail.
- Provide a 110-foot right-of-way (ROW) typical section for the project length, except between 800 West and 700 West where a 94-foot ROW typical section option could be considered to minimize impacts in this narrow section of the corridor.
- The alignment will meander to minimize impacts to residents, businesses, and the environment.
- Work with UDOT, Woods Cross City, and West Bountiful City to determine the appropriate locations and conditions for access management.

Purpose and Need Objectives			**Additional Project Objective**
Improve Future Corridor Mobility & Accommodate Future Travel Demand Through the Design Year 2030	**Provide Safe & Efficient Facilities with Connections to Nearby Major Transportation Facilities (Transit, Freeways, Highways & Trail Systems)**	**Correct Geometric & Drainage Problems**	**Serve as an Asset to the Cities of Woods Cross & West Bountiful**
■ Provide the best Level of Service (LOS) and overall travel time through the corridor through the design year 2030 that can be achieved in balance with resulting impacts to the built and natural environment. ■ Provide improvements in a manner that is compatible with development plans of Woods Cross and West Bountiful. ■ Provide effective access management. Control left-turn movements at signalized intersections and at other locations based on UDOT traffic and safety criteria. Consolidate accesses such as side streets, where reasonable access can be maintained. ■ Separate turning movements from through traffic.	■ Provide continuous sidewalk on both sides of the road that meets ADA requirements. ■ Accommodate bicycle use and future bus stops outside of the through travel lanes. ■ Provide safe and efficient SR-68 mobility and intersection improvements that accommodate users of the Woods Cross Commuter Rail Station. ■ Connect with Legacy Parkway and I-15 Improvements. ■ Enhance storm drainage system to minimize off-site drainage.	■ Meet current UDOT and AASHTO design standards and practice.	■ Partner with the Cities of Woods Cross and West Bountiful to accommodate and implement appropriate elements of plans. Improvements that are compatible with or implement elements of the plans are considered to be an asset.

Table 1.1: Purpose and Need Statements

- Establish a community context sensitive committee (CSC) to determine appropriate landscaping to be used in the median and shoulder areas.

The build alternative to be progressed will provide a corridor that will meet corridor needs for mobility, improve safety, drainage, and geometric conditions by constructing improvements to meet current Federal and UDOT standards, and will be an asset for the community. Currently, UDOT and the cities are working on an appropriate access management plan. By working with community representatives, the cities of West Bountiful and Woods Cross and UDOT, an appropriate plan for landscaping to the medians and park strips will be developed. The following is a detailed analysis of the development of alternatives for the project area.

2.1 Project Purpose and Alternative Evaluation Criteria

The SR-68 project is part of a shared transportation solution that includes the Legacy Parkway, I-15 improvements, and Commuter Rail. SR-68 plays a substantial role in facilitating the efficient and safe movement of people and goods. The purpose of this project is to improve future corridor mobility and accommodate future travel demand through the 2030 design year in a manner that helps connect nearby major transportation facilities (transit, freeways, highways, and trail systems), corrects geometric and drainage problems, and serves as an asset to adjacent communities.

Detailed analyses of SR-68 combined with public input were used to identify the project needs. This approach clearly identified the needs that the project should address for SR-68 to continue to function as a major (urban principal) arterial, serving the communities of Woods Cross and West Bountiful through the

2030 design year.

Alternatives were suggested by project stakeholders to meet the needs of the corridor. Each suggested solution was analyzed by using the purpose and need statements to screen its ability to meet the project goals. Each purpose and need had objectives which were used to measure the effectiveness of each solution. See Table 1.1. If the suggested solution met any part of the four purpose and need statements, it was kept for consideration.

The Project Purpose and Need was presented to the public at the project open house held on November 29, 2005. Twenty five comment

forms were completed at this open house and of the 25 responses, 93% of respondents felt the needs had been accurately reflected by the project team.

2.2 Future Transportation Conditions

SR-68 currently carries approximately 15,200 vehicles per day (vpd) at 800 West and 11,300 vpd north of 2600 South. The travel demand modeling shows that by the 2030 design year, SR-68 traffic volumes are forecasted to increase to as much as 20,000 vpd with or without improvements.

A transportation system's operational performance is typically evaluated during one hour of the peak traffic period. The peak traffic period is determined by assessing traffic volume characteristics and generally occurs during the morning (AM) or evening (PM) commute times. For this study, the PM peak period was shown to have higher traffic volumes than the AM peak period, therefore the PM peak hour was used as the controlling peak hour. During the PM peak hour, traffic volumes are higher for northbound and eastbound travel than for travel in the opposite direction.

In general, the traffic analysis indicates that traffic congestion will increase in the future with or without improvements. In order to assure safe and efficient corridor operations on this section of SR-68, there is a need to develop and implement an action that addresses the issue of increased traffic volumes and congestion. The traffic analysis uses the No Build scenario as a base condition for the year 2030. This traffic analysis is inclusive of all projects in the Wasatch Front Regional Council's (WFRC) long range plan (LRP) except this project. The following summarizes the findings of the traffic analysis:

- **2030 PM Peak Hour Directional Volumes:** By the year 2030, the PM peak hour volumes are as high as 1,500 vehicles per hour (vph). Volumes increase an average of 75 percent (westbound/southbound) and 46 percent (northbound/eastbound) over existing conditions;

- **2030 Intersection LOS PM and Peak Hour Average Delay:** The traffic operations analysis indicates high average delays and poor intersection LOS (LOS F) will be experienced by the year 2030. Overall network delay is expected to increase from 1.1 minutes of delay to over 5

minutes of delay per vehicle. This represents a 370 percent increase over existing conditions;

- **2030 PM Peak Hour Corridor Travel Time:** By the year 2030, travel time increases approximately 38 percent for northbound/eastbound travel and 68 percent for westbound/southbound travel over existing conditions. Northbound/eastbound travel time increases from approximately seven minutes to nine minutes and westbound/southbound increases from approximately five minutes to eight minutes.

2.3 No Build Alternative

Alternative Description

The No Build Alternative includes capital improvements to maintain the existing corridor (i.e. resurfacing the roadway). The No Build Alternative does not include major or minor reconstruction projects. For example, it does not include adjustments to the horizontal or vertical alignment, nor widening of the roadway surface for increased shoulders, providing curb and gutter, sidewalks, nor additional travel lanes.

Alternative Analysis

This alternative progressed as an alternative due to NEPA regulations that requires the No Build Alternative to be evaluated through the environmental study process. This alternative will act as a comparison for the rest of the alternatives considered. The ability to meet basic project objectives such as safety and level-of-service (LOS) were evaluated during the alternative evaluations. The results are discussed below.

Traffic Operations—Improve Future Corridor Mobility

The future traffic demands will cause the intersections at 500 South and 700 West, 800 West, 1100 West and 2600 South and Redwood Road to fail by greatly increasing the time motorists will wait to move through the intersection. Trains will cause more cars to wait, creating an even longer build-up at the rail crossings. The overall time it will take to travel through the corridor will also increase. For more information please refer to the *SR-68, 2600 South to I-15 in Davis County Traffic Report*.

The No Build Alternative is not compatible with the existing development plans of Woods Cross and West Bountiful. Woods Cross City has a detailed development plan for the area along 500 South and Redwood Road. These plans will require improved access and mobility along the project corridor.

Safety— Provide Safe and Efficient Facility; and Correct Geometric and Drainage Problems

The No Build Alternative does not provide for geometric improvements to correct deficiencies (outlined in the existing conditions technical memo) that would increase the safety of the motorists, pedestrians and bicyclists using the corridor. Deficient cross slopes, shoulders, clear zones and pavement conditions will continue to exist. As a result, this alternative will not satisfy the identified need for safe and efficient connections to neighboring transportation facilities. In addition, shoulders, sidewalks will not be replaced or made consistent; thus, forcing these roadways users to use the travel lanes.

This alternative does not address the access management, the consolidation of accesses, or provide area for the separation of turning movements from the through traffic.

The No Build alternative does not include any enhancements or improvements to the existing storm drainage system. Drainage problems outlined in the existing conditions technical memo would not be corrected. Some deficiencies include:

- Inconsistency of storm drainage systems which is allowing runoff to drain to roadside swales causing erosion to occur and undermine existing infrastructure.

- Existing metal storm drain pipe system will most likely not meet the 50 year design life. The manhole just west of the DRG&W rail crossing overflows during high intensity storms, fills with mud and requires regular maintenance.

- Ponding along roadside ditches encourages vegetation to grow and encroach on the clear zone of the roadway.

- Irrigation canals are not utilized for irrigation due to an inadequate storm drainage system. Comment from the U.S. Department of the Interior concerning the A1-A drain states: "...the design capacity of the A1-A drain is currently exceeded by unauthorized urban use of the drain, which is limiting our ability to properly drain agricultural lands."

- The existing debris basin near 500 South and I-15 is not maintained and is filling up with silt and debris. Davis County would like to abandon the basin.

Serve as an asset to the Cities of Woods Cross and West Bountiful

The cities of Woods Cross and West Bountiful view this area as the gateway to their communities, especially with the construction of the Legacy Parkway. This corridor provides a link in this section of Davis County between I-15, Commuter Rail, and the Legacy Parkway. Enhancement funds for the corridor can still be explored by the cities to provide aesthetic appeal to motorists. The cities of Woods Cross and West Bountiful view this area as the gateway to their communities, especially with the pending construction of the Legacy

Parkway and Commuter Rail. Congestion and deficient geometric features detract from the gateway objectives.

Summary

Although the No Build Alternative does not meet the project's purpose and need, it will progress due to CEQ Regulations (40 CFR 1502.14, NEPA, and FHWA Technical Advisory (T6640.8A, October 30, 1987).

2.4 Evaluation Process and Alternative Development

A full range of concepts were considered in accordance with the National Environmental Policy Act (NEPA) regulations and Federal Highway Administration (FHWA) guidelines. One hundred and one alternatives were suggested in this initial stage of the study. Figure A-3 lists the suggested solutions for the corridor from the following sources:

- Public comments received from individual stakeholders during one-on-one interviews
- Comments collected at a public open house and from a comment form distributed to the project area residents
- Suggestions from a previous 500 South Corridor needs Assessment performed in 2004
- Input received from resource agencies
- Technical analysis of the corridor needs and engineering solutions to meet those needs

As shown in the figure, some suggested

solutions would not meet the purpose and needs by themselves and were individually eliminated from further consideration. However, when several solutions were combined together, the project's purpose and needs were satisfied. These combined solutions were developed into progressed project alternatives.

Development of these and other alternatives followed the steps shown on the Build Alternative Screening Process Flow Chart (Figure A-1). The objective of the alternative development process, outlined in the flow chart, was to develop alternatives which would meet the project purpose, needs, and objectives. The first decision in the development of the build alternatives was to provide and analyze alternatives to improve capacity and mobility throughout the corridor, including analysis of capacity and mobility at the 500 South and UPRR crossing. Once these decisions were made, the next decision was to determine the appropriate right-of-way (ROW) width. After knowing the number of

lanes and the typical section width of the preferred alternative the next decision was to determine which horizontal alignment would be preferred. An additional project objective was to evaluate the preferred alternatives' ability to serve as an asset to West Bountiful and Woods Cross Cities.

The following is a summary of this decision process.

Improve Capacity and Mobility

The first need for the project was to improve capacity and mobility along the corridor. Two build alternatives were considered to help increase the capacity of the corridor. These included a 3-lane solution and a 5-lane solution. Both of these solutions include a center median/turn-lane. The center turn lane would allow traffic to better access businesses along 500 South and Redwood Road. The following is a description and analysis of both solutions:

Three-Lane Solution

Alternative Description

This solution would be designed with all current standards and would meet the needs of other multi-modal transportation methods. This option would provide a single lane in each direction and a center turn lane. Sidewalks and shoulders would be a consistent width, park strips would be provided, clear zone, and storm drainage issues would be resolved. Turn lanes, extended turn pockets, intersection signalization, signal timing and access management would also be included in this option.

Alternative Analysis

This option would not provide the needed capacity for the design year (2030) traffic volumes. For more information, see SR-68, 2600 South to I-15 in Davis County Traffic Report.

Five-Lane Solution

Alternative Description

Like the three-lane solution, all current standards would be incorporated into the design. This included addressing the multi-modal transportation needs. This option would provide two lanes in each direction with a median. Sidewalks and shoulders would be a consistent width, park strips would be provided, clear zone, and storm drainage issues would be resolved. Turn-lanes, extended turn pockets, intersection signalization, signal timing and access management would also be included in this option.

Alternative Analysis

This option will provide the acceptable corridor travel times and accepted LOS D (or better) at all intersections through the design year. Travel times may be increased by trains crossing 500 South at 800 West.

Improve Capacity/Mobility at Major Intersection: 500 South and UPRR Crossing

As a result of the increased travel times at the crossing, improving capacity and mobility at the Union Pacific Railroad (UPRR) crossing at 500 South and approximately 800 West was evaluated. This railroad corridor is, or will be, used by three users, UPRR, Holly Energy Partners / Holly Refining and Marketing Company (Holly Oil Refinery), and the Utah Transit Authority (UTA) for a future commuter rail corridor. The existing crossing consists of two mainline tracks which cross 500 South. The commuter rail project will add an additional track to the east of the UPRR mainline tracks. A rail turnout (allowing railcars to shift from one track to another) for a third rail line owned by UPRR is located just north of 500 South and is used for UPRR rail car storage and access to an industrial spur track owned by Holly Oil Refinery.

The operations for this crossing can be summarized as follows, however, in discussions with UPRR, it was indicated that there is no set schedule for this rail crossing:

UPRR has approximately 36 crossings per day. During the PM peak period (4:00-6:00 pm) there is approximately 3 train crossings. The average PM peak hour crossing time was 160 seconds.

The Woods Cross commuter rail station will accommodate 750 vehicles and 58 commuter rail trains that will cross 500 South per day. Commuter rail service will add six shorter train crossings per peak period. Commuter rail trains will have 20 minute headways during peak hours and 40 minute headways throughout the rest of the day. These trains will average from one to one and a half minute gate closures on 500 South per train.

Holly Oil Refinery currently has delivery of approximately 20 cars per week. Railroad cars are dropped off and picked up on average twice daily at any time of the day depending on scheduling of trains and high volume on the Union Pacific mainline.

Railroad cars are loaded at three different locations at the refinery depending on the product. Two of these locations are spurs off of the UP mainline and one is off of the D&RGW line. The two spurs off of the UP mainline can store a maximum of 14 cars combined. The schedule is dependent on the other daily train traffic. Most of the train switches completed by Utah Railways take place during the day (2 pm to 2 am) and can take up to 30-45 minutes. Holly Oil Refinery requests that UPRR provided a delivery and a pickup on a certain day. Deliveries are made by UPRR whenever the rail line is free from other traffic with no specific scheduled delivery time. Delivery process to Holly Oil Refinery is completed in the following manner: the trains pull across 500 South to make the switch of railroad cars. Trains are able to block 500 South vehicle traffic for a maximum of five minutes. After five minutes if the delivery is not complete the train will pull off of 500 South to allow cars to pass. After the traffic on 500 South is released, then the train may pull back across 500 South and block traffic. This process may continue until the delivery is completed. However, they may block an intersection for an unlimited amount of time as long as the train remains in motion.

The refinery is currently planning an expansion. An increase of train cars is expected—up to 150 cars per week compared to the 20-30 cars the refinery presently receives. Holly Oil Refinery is anticipating that most of these deliveries can be provided on the D&RGW rail line. However, the current deliveries from UPRR mainline could still be delivered from the UPRR mainline. Consideration is being given to realigning the industrial rail and provide these deliveries from the D&RGW line.

Eight alternatives were developed to address the intersection of 500 South and the UPRR crossing. See Figure A-9 for a summary of the progression of these alternatives.

The following is a description of each build alternative and result of the screening process. Alternative 1 is the No Build Option discussed previously.

Alternative 2: 2030 Spot Improvements & At-Grade Union Pacific Railroad (UPRR) Crossing

Alternative Description

This alternative includes small improvements to the SR-68 corridor. Improvements could

include reconstructing the pavement surrounding the UPRR rail crossing at 500 South, removing obstructions from the clear zone limits, small drainage improvements, etc. This improvement would most likely cause little impact to the surrounding community.

Alternative Analysis

Traffic Operations—Improve Future Corridor Mobility

Similar to the no build alternative the spot improvements outlined would not add lanes to the existing corridor, and in turn, not add any additional capacity to the corridor. Please refer to the Traffic Operations discussion of the No Build Alternative.

Safety—Provide Safe and Efficient Corridor

A small number of spot improvements could help the safety of the corridor. If obstructions could be eliminated, or moved out of the clear zone area, cars departing from the traveled way would not collide with them. If sidewalks were added, a consistent pedestrian facility along the corridor could be created.

Alternative 3: 2030 Spot Improvements, UPRR Grade Separation

Alternative Description

This alternative includes small improvements to the SR-68 corridor and a grade separated bridge over the UPRR crossing. Improvements could include small drainage improvements, along with constructing the bridge. The spot improvements would most likely cause little impact to the surrounding community, but would help address some issues of the corridor due to future traffic demand. The grade separation would cause greater impacts to the residents and businesses on 500 South from 700 West to approximately 850 West.

Alternative Analysis

Traffic Operations—Improve Future Corridor Mobility

The spot improvements outlined would not add lanes to the existing corridor, and in turn, not add any additional capacity to the corridor. Please refer to the Traffic Operations discussion of the No Build Alternative.

Safety—Provide Safe and Efficient Corridor

A small number of spot improvements could help the safety of the corridor. If obstructions could be eliminated, or moved out of the clear zone area, cars departing from the traveled way would not collide with them. If sidewalks were added, a consistent pedestrian facility along the corridor could be created.

Alternative 4: 2030 5 Lane with UPRR At-Grade Crossing

Alternative Description

The alternative will widen SR-68 from three to five lanes (two in each direction and a center turning lane/median). It will keep the UPRR crossing at its current elevation, but the crossing will be improved as the roadway will be reconstructed with this alternative. In addition, the five lane alignment of this alternative can be modified to limit impacts along the corridor. For example, the alignment could be shifted to the left to minimize impacts on the right side of the corridor. Please refer to Figure A-4 in Appendix A for a graphic of this alternative.

Alternative Analysis

Traffic Operations—Improve Future Corridor Mobility

Traffic analysis for this alternative includes transportation system management (TSM) improvements including added turn lanes, extending turn pockets, intersection signalization, signal timing optimization, traffic channelization, and access intersections along the corridor. This alternative will provide the best outcome for SR-68 without a grade separation at the Union Pacific Railroad (UPRR) crossing and widening the roadway. This alternative will provide LOS D or better at all intersections during the PM peak hour through the year 2030. The Network Wide PM Peak Hour delay is 65 seconds per vehicle.

Compared to existing delay, motorists may experience a greater delay at intersections when a train is crossing, but will provide the acceptable level of service for the year 2030.

Safety—Provide Safe and Efficient Corridor

This alternative will provide a fully gated crossing with lights to warn motorists on 500 South of approaching trains and gates to prevent motorists from crossing. This alternative will provide geometric

improvements such as curb returns which will accommodate large vehicles.

There have been no reported accidents at this intersection in the current operational safety report (OSR) due to the train crossing.

Alternative 5: 2030 5 Lane with UPRR Grade Separation

Alternative Description

The alternative will widen SR-68 from three lanes to five (two in each direction and a center turning lane). It will also create a grade separated UPRR crossing at its current location. In addition, the five lane alignment of this alternative can be modified to limit impacts along the corridor. For example, the

alignment could be shifted to the north to minimize impacts on the south side of the corridor. The intersection where 800 West meets 500 South will also be elevated to meet the bridge over the UPRR. Please refer to Figure A-5 in Appendix A for a graphic of this alternative.

Alternative Analysis

Traffic Operations—Improve Future Corridor Mobility

The traffic analysis includes TSM (see Alternative 4 description above) and a grade separation at the railroad tracks. The PM Peak Hour Network wide delay for this alternative is 45 sec/vehicle. This alternative provides the best traffic operation at the train crossing, however, it will create additional costly impacts.

Safety—Provide Safe and Efficient Corridor

Elimination of a rail crossing generally improves safety at the crossing. Access to the north leg of 800 West would create sight distance problems for traffic turning from 800 West to 500 South trying to see over the vertical curve and barrier on the railroad structure. The railroad structure would need to be extended wide enough to allow adequate sight distance.

Due to the steep grade going over the structure, access to adjacent streets at 700 West and approximately 900 West (future access to transit oriented development (TOD)) would need sufficient signage to help motorists anticipate slower vehicles trying to use these streets.

Alternative 6: 2030 5 Lane with UPRR Grade Separation and 800 West Realignment (At-Grade Crossing with UPRR)

Alternative Description

The alternative will widen SR-68 from three lanes to five (two in each direction and a center turning lane/median). It will also

create a grade separated UPRR crossing at its current location and shift the current 800 West alignment east from its location to create a four leg intersection at 700 West and tie back into the current alignment of 800 West north of the oil refinery property. The crossing of realigned 800 West and the railroad tracks would be an at-grade crossing. The five lane alignment of this alternative can be modified to limit impacts along the 500 South corridor. For example, the alignment could be shifted to the north to minimize

impacts on the south side of the corridor. A cul-de-sac will be created at the existing intersection of 800 West and 500 South. Please refer to Figure A-6 in Appendix A for a graphic of this alternative.

Alternative Analysis

Traffic Operations—Improve Future Corridor Mobility

Traffic operations and future mobility for 500 South will be similar to Alternative 5 since the intersection will be grade separated. The Peak Hour Network Wide Delay for this alternative is 50 sec/vehicle. In addition, this alternative will eliminate the 800 West north leg intersection. The realignment of 800 West and the tie-in to 700 West will provide improved north south traffic flow between West Bountiful and Woods Cross. However, the delay to traffic using the bypass will be 2 seconds more than Alternative No. 4 (36.1 seconds vs. 34.2 seconds) due to the changes in the traffic patterns of the by-pass and the possible train delay of the new rail crossing.

UPRR utilizes the siding track (most westerly of the 3 tracks) for temporary storage of rail cars. Storage of rail cars on this track would block any proposed crossing and make the at-grade realignment of 800 West not feasible. In addition, the by-pass route outlined in this alternative will create costly impacts with no significant benefit when considering the purpose and need statement.

Safety—Provide Safe and Efficient Corridor

The at-grade rail crossing of the realigned 800 West will require this intersection to be lighted and gated resulting in some delay. Elimination of a rail crossing generally improves safety at the railroad crossings. However, the realignment of the 800 West corridor and an at-grade intersection with UPRR would offset the improved crossing of 500 South.

Alternative 7: 2030 5 Lane with UPRR At-Grade and 800 West By-Pass Route Grade Separated

Alternative Description

Similar to Alternative 4, this alternative will widen SR-68 from three to five lanes (two in each direction and a center turn-lane/median) and provide an at-grade intersection with the UPRR crossing at its current location. However, this alternative will shift the current 800 West alignment east to create a four-leg intersection at 700 West and tie into the current alignment of 800 West north of the oil refinery. In addition, the five lane alignment of this alternative can be modified to limit impacts along the corridor. For example, the alignment could be shifted to the north to minimize impacts on the south side of the corridor. A cul-de-sac will be created at the

existing intersection of 800 West and 500 South. Please refer to Figure A-7 in Appendix A for a graphic of this alternative.

Alternative Analysis

Traffic Operations—Improve Future Corridor Mobility

Traffic operations and future mobility for 500 South will be similar to Alternative 4 since the intersection will be at-grade. The PM Peak Hour Network Wide delay is 65 seconds/vehicle. In addition, this alternative

will eliminate the 800 West north leg intersection. The realignment of 800 West and the tie-in to 700 West will provide improved north/south traffic flow between West Bountiful and Woods Cross. The grade separation of the 800 West corridor and the UPRR will allow the UPRR to be used for rail storage. However, the by-pass route outlined in this alternative will create costly impacts with no significant benefit when considering the purpose and need statement.

Safety—Provide Safe and Efficient Corridor

This alternative will provide a fully gated crossing with lights to warn motorists on 500 South of approaching trains and gates to prevent motorists from crossing. This alternative will provide geometric improvements such as curb returns which will accommodate large vehicles.

Alternative 8: 2030 5 Lane with UPRR At-Grade and 800 West Realignment At-Grade

Alternative Description

This alternative for 500 South will be similar to Alternative 4 for 500 South motorists and similar to Alternative 6 for the realigned 800 West motorist since the intersections with UPRR (on 500 South and the realigned 800 West) will be at-grade. In addition, this alternative will eliminate the 800 West north leg intersection. 800 West would become a cul-de-sac. The realignment of 800 West and the tie-in to 700 West will provide improved north/south traffic flow between West Bountiful and Woods Cross. Please refer to Figure A-8 in Appendix A for a graphic of this alternative.

Alternative Analysis

Traffic Operations—Improve Future Corridor Mobility

This alternative will provide LOS D or better at all intersections during the PM peak hour through the year 2030. The PM Peak Hour Network Wide Delay for 500 South is similar to Alternatives 4 and 7. The delay to traffic using the bypass will be increased due to the changes in the traffic patterns of the by-pass and the possible train delay of the new rail crossing. The realignment of 800 West and the tie-in to 700 West will provide improved

north/south traffic flow between West Bountiful and Woods Cross.

Safety—Provide Safe and Efficient Corridor

This alternative will provide fully gated crossing with lights to warn motorists on 500 South of approaching trains and gates to prevent motorists from crossing. This alternative will provide geometric improvements such as curb returns which will accommodate large vehicles.

Summary

It was concluded that alternatives 4, 5, 7 and 8 meet the SR-68 Project purpose and need and are feasible. Due to the number of impacts and the extraordinary magnitude of costs of alternatives 5, 7 and 8, Alternative 4: 5 Lane with UPRR At-Grade Crossing was progressed to improve capacity and mobility at the 500 South and UPRR intersection. See Figure A-9 "Progression of Alternatives Chart" for comparison of these alternatives.

A stakeholder workshop hosted by the project team outlined the goals of each stakeholder and their visions for the corridor. At the conclusion of the stakeholder workshop it was understood that grade separation would not be precluded from happening in the future, however, several options would need to be considered: determine feasibility of grade separation and 800 West realignment, and develop concept and environmental documentation. Specifically, West Bountiful and Woods Cross would need to identify possible funding for grade separation by corridor preservation, and determine the feasibility of the 800 West relocation due to the close proximity of the intersection to the I-15 ramps and future new interchange. Letters of concurrence were signed by Woods Cross and West Bountiful on May 23, 2006 and June 1, 2006, respectively which can be found in Figure B-1 in Appendix B.

Five Lane Right-of-Way (ROW) Typical Section Width Options

Once the capacity and mobility of the corridor and major intersections were determined, a cross section width of the five lane corridor was determined. The existing conditions for the No-build alternative and options for the cross section widths are outlined and explained below.

Existing Cross Section

Currently there is a 100 foot right-of-way (ROW) from 2600 South and Redwood Road to 800 West and 500 South. A ROW of 66 feet along 500 South starts at approximately 800 West and continues east to the southbound on-ramps of I-15.

The current cross section is inconsistent and not adequate to provide a 5 lane cross section. Shoulders, lane widths, curb and gutter, sidewalks, and park strips are inconsistent throughout the corridor. For more detailed information on existing conditions, refer to the Existing Conditions Technical Memorandum.

To meet the corridor needs the following ROW typical section widths were developed:

- 110-Foot ROW Typical Section
- 106-Foot ROW Typical Section
- 100-Foot ROW Typical Section
- 94-Foot ROW Typical Section
- 89-Foot ROW Typical Section
- 83-Foot ROW Typical Section

The following is a description of each typical section alternatives and a summary of the alternative analysis. In general, all the ROW typical sections considered improve future mobility by providing a 5 lane cross section, provide safe and efficient facility by meeting current AASHTO standards, and will correct geometric and drainage problems. To determine the best alternative and minimize impacts to the surrounding environment, the typical sections were evaluated for meeting UDOT and local standards and ability to be an asset to cities (i.e. compatible with local plans). See Figure A-10 for a summary of impacts along the corridor for ROW width and alignment option.

110-Foot ROW Typical Section

Alternative Description

This alternative includes: four 12-foot travel lanes (2 in each direction of travel), 12-foot shoulders (each side), 14-foot median/center turn lane, 2.5-foot curb and gutter (each side), 4.5-foot park strip (each side), 4-foot sidewalk (each side), and 1-foot of ROW behind the sidewalk (each side). See Figure A-11 for graphic view of this typical section.

Alternative Analysis

This cross section meets all UDOT and AASHTO standards. In addition, the 110-foot cross sections are the current UDOT Region One standard ROW width for this type of facility. It will also accommodate the local government's outlined cross section. Woods Cross City's master plan outlines a 106-foot cross section with a 7-foot shoulder and 7.5-foot park strip. The 12-foot shoulders would provide a place for a vehicle to stop because of mechanical difficulties or emergencies and to

conduct evasive maneuvers to avoid potential crashes. These shoulders would provide a sense of openness that would contribute to driver comfort, as well as improve sight distance and lateral clearance from obstructions, thereby increasing safety. The 12-foot shoulders would provide space for maintenance operations (e.g. snow removal and storage) and allow for safer use by bicycles, pedestrians, mail delivery and buses. Additionally, the 12-foot shoulder would accommodate deceleration associated with turning movements. See Figure B-2 in Appendix B for a complete list of alternative impacts.

106-Foot ROW Typical Section

Alternative Description

This alternative includes two 12-foot lanes in each direction of travel, 8-foot shoulders, 14-

foot median, 2.5-foot curb and gutter, 5.5-foot park strip, 5-foot sidewalk, and 1-foot of ROW behind the sidewalk. See Figure A-12 for graphic view of this typical section.

Alternative Analysis

This cross section meets all current UDOT and AASHTO standards. Shoulders meet UDOT's standard drawing GW11 desirable shoulder width for urban roadway shoulders. However, it does not meet the UDOT Region One standard for cross section width for this type of corridor. The total width of 106-feet is concurrent with the local government preferred ROW width as shown in local government transportation master plans. An advantage to this alternative is that the 8-foot shoulder width tends to discourage on street parking, but will also accommodate a bicycle lane if desired by the cities. The 8-foot shoulder would not allow the shoulder to be used for deceleration associated with turning movements or provide as much sight distance or lateral clearance from obstructions or area to conduct evasive maneuvers, as does the 12-foot shoulder.

100-Foot ROW Typical Section

Alternative Description

This alternative includes two 12-foot lanes in each direction of travel, 6-foot shoulders, 14-foot median, 2.5-foot curb and gutter, 4.5-foot park strip, 5-foot sidewalk, and 1-foot of ROW behind the sidewalk. See Figure A-13 for graphic view of this typical section.

Alternative Analysis

This cross section meets all current AASHTO standards. The cross section does not meet UDOT minimum shoulder width requirements and is not consistent with Woods Cross and West Bountiful transportation master plans. It matches the

existing ROW throughout most of the corridor which would greatly reduce the number of impacts along Redwood Road and 500 South. An advantage to this alternative is that the 6-foot shoulder width tends to discourage on street parking, but will also accommodate a bicycle lane if desired by the cities. However, similar to the 106-foot shoulder, it would not allow the shoulder to be used for deceleration associated with turning movements or provide as much sight distance or lateral clearance from obstructions or area to conduct evasive maneuvers.

94-Foot ROW Typical Section

Alternative Description

This alternative includes four 12-foot travel lanes (2 in each direction of travel), 4-foot shoulders (each side), 14-foot median/center turn lane, 2.5-foot curb and gutter (each side), 4.5-foot park strip (each side), 4-foot sidewalk (each side), and 1-foot of ROW behind the sidewalk (each side). See Figure A-14 for graphic view of this typical section.

Alternative Analysis

This cross section meets all AASHTO standards. The cross section does not meet UDOT guidance for minimum shoulder width and is not consistent with the typical section outlined in the city transportation master plans. This alternative minimizes impacts to properties from 800 West to 700 West. This alternative would discourage on street parking due to the small shoulder width, but will still accommodate bicycle usage on the corridor. Additional widening at intersections will be necessary to accommodate right turn lanes at intersections. Similar to the 106-foot and 100-foot right-of-ways, it would not allow the shoulder to be used for deceleration associated with turning movements or provide as much sight distance or lateral clearance from obstructions or area to conduct evasive maneuvers, as does the 12-foot shoulder. The primary benefit of the 94-foot right-of-way option is that it decreases the number of business relocations, thereby providing a context sensitive solution for this section of the project.

89-Foot ROW Typical Section

Alternative Description

It includes two 12-foot lanes in each direction of travel, 4-foot shoulders, 14-foot median/ center turn lane, 2.5-foot curb and gutter, 6-foot sidewalk, and 1-foot of ROW behind the sidewalk. See Figure A-15 for graphic view of this typical section.

Alternative Analysis

This cross section meets all current AASHTO

standards. The cross section does not meet UDOT minimum shoulder width requirements. It does provide desirable travel lane widths, median widths, and clear zone (16-feet) for sections of the corridor with a lower design speed (40 mph). The additional width of the median and travel lane (compared to the 83-foot ROW typical section) is more conducive for the 7-8% of trucks that use the corridor. The following elements this alternative are minimal AASHTO standards that do not meet the UDOT standards/recommendations:

- Park strip is not provided (desired in Woods Cross plan, 4-foot minimum in UDOT standard if park strip is provided. If no park strip is provided, than a minimum 6-foot sidewalk is provided).

- Shoulder width (8-foot desirable for urban roadway shoulder). The 4-foot shoulder does not encourage bicycle use on the corridor if desired by the cities, nor provide adequate room for deceleration or right turn movements on the corridor. The shoulder width would discourage on street parking.

83' ROW Typical Section

Alternative Description

This alternative includes two 11-foot lanes in each direction of travel, 4-foot shoulders, 12-foot median center turn lane, 2.5-foot curb and gutter, 6-foot sidewalk, and 1-foot of ROW behind the sidewalk. Please refer to Figure A-16 in Appendix A for a graphic of this alternative.

Alternative Analysis

While the cross section does meet minimum AASHTO standards, it does not meet UDOT standards for lane width, shoulder width, and park strip width. The following elements are minimal AASHTO standards that do not meet the UDOT standards/recommendations:

- park strip is not provided (desired in Woods Cross Master Plan, 4-foot minimum in UDOT standard if park strip is provided. If no park strip is provided, than a minimum 6-foot sidewalk is provided),

- shoulder width (8-foot desirable for urban roadway shoulder),

- travel lanes are 11-feet (12-feet is standard),

- median width is 12-feet (14-feet is desirable),

- the 4-foot shoulder does not encourage bicycle use on the corridor if desired by the cities, nor provide adequate room for deceleration or right turn movements on the corridor. It also decreases sight distance and lateral clearance from obstructions or provide area to conduct evasive maneuvers. The shoulder width would discourage on street parking.

Summary

The 110-foot cross section will be used to determine the number of impacts because this is the UDOT Region One preferred cross section width. The 94-foot typical section will be considered as an option in the location

from 800 West to 700 West. See Figure A-17 for a summarized table of alternative impacts.

Alignment of Option (5 Lane, 110-foot and 94-foot ROW)

Horizontal Alignment of Cross Section/ROW Width

The project team reduced impacts by looking at the horizontal placement of cross sections in relation to the current ROW boundaries. Four horizontal alignment options were evaluated. These consisted of: center alignment, west/north shifted alignment, east/south shifted alignment, and a meandering alignment. The alignment was shifted from one side of the corridor to another to determine which alignment would have the least number of impacts. Below is the explanation for each option evaluated. Figure A-10 contains a impact table detailing the 110– and 94-foot typical sections. Refer to Figures B-3-1 through B-3-3 for graphics of the shifted alignments.

Center Alignment

This alignment analyzed impacts with the 110-foot ROW cross section center line aligned with the current roadway centerline. Theoretically, this will divide the impacts equally on both sides of the corridor. As shown in Figure A-10 this alignment has 19 residential strips takes, 18 residential relocations, 51 business strip takes, 12 business relocations, 44 undeveloped land strip takes, 12 historic properties and 11 wetlands affected.

West/North Shifted Alignment

This alignment was developed to minimize the impacts to property on the east/south side of the existing corridor. By using the east/south ROW lines as the "no impact" lines and offsetting the 110-foot ROW width, impacts were kept on the east/south side of the corridor. As shown in Figure A-10 this alignment has 14 residential strips takes, 5 residential relocations, 21 business strip takes, 4 business relocations, 22 Undeveloped land strip takes, 8 historic properties and 6 wetlands affected.

East/South Shifted Alignment

This alignment is used to minimize the impacts to property on the west/north side of the existing corridor. By using the west/north ROW lines as the "no impact" lines and offsetting the 110-foot ROW width, impacts

were kept on the west/north side of the corridor. As shown in Figure A-10 this alignment has 5 residential strip takes, 15 residential relocations, 30 business strip takes, 10 business relocations, 28 vacant land

strip takes, 4 historic properties relocation and 5 wetlands affected. One of the businesses which would require relocation included the Holly Energy Partners (Filling Station). Cost for relocation of this facility is 4 times the cost of other businesses due to the complexity of the filling stations operations.

Meander Alignment

This alignment shifted the alignment centerline in different directions so the impacts can be minimized to the surrounding homes, businesses, environment and utilities. The alignment was "meandered" through the corridor to best fit the 110-foot ROW along the

corridor. As shown in Figure A-17 this alignment has 12 residential strip takes, 9 residential relocations, 32 business strip takes, 5 business relocations, 30 undeveloped land strip takes, 7 historic properties and 10 wetlands (2306 linear feet of ditches and 0.04 acres) affected.

As an option to the 110-foot through the entire corridor, the 94-foot ROW in the confined section from 800 West to 700 West could be used to minimize impacts. As shown in Figure A-17 the 110-foot/94-foot ROW meander option has the following impacts from for the corridor: 12 residential strip take, 9 residential relocations, 35 business strip takes, no business relocations, with no additional change in the impacts to historical and wetland resources. In comparison to the 110-foot ROW, the 94-foot ROW along the corridor from 800 West to 700 West modifies the impacts from 800 West to 700 West by the following: increase business strip takes from four to seven, and reduces the business relocations from four to zero.

Summary

The meander alignment was selected as the preferred alignment for this corridor due to the reduced impacts of the alignment compared to the other alternatives.

Serve as an Asset to West Bountiful and Woods Cross

Access Management

The cities of Woods Cross and West Bountiful are presently working on access management plans for their planned developments. These plans may restrict left-turn movements throughout the project except at specified intersections. In areas where underdeveloped land borders the corridor, accesses to SR-68 will be limited. Key locations for intersections will be established (based on city and state plans) and coordinated with developers. The incorporation of the access management plans will lead to efficient and safer travel for the drivers, pedestrians, businesses and residents

along SR-68. Proposed improvements will implement the Woods Cross and UDOT access management plan.

Shoulder Treatments

A Context Sensitive Committee (CSC) will be organized of representatives from UDOT, local municipalities, citizens, and businesses to provide input on shoulder and median treatments to be used on the project. Landscaping features within the context of the area and consistent with roadway design standards will be determined. Shoulder area treatments not only include aesthetic treatments but may also consider variations of the park strip and sidewalk locations.

Proposed Build Alternative

The No Build/TSM Alternative, and several alternatives were considered throughout the screening process. Several were unable to allow SR-68 and 500 south to meet purpose and needs of the corridor, nor serve the cities of Woods Cross and West Bountiful through the 2030 design year. Although it is clear that the No Build Alternative would not fulfill the project purpose and need, the No Build Alternative is used to provide a baseline for comparison.

Figure A-1 summarizes the screening process to arrive at the preferred build alternative. Figure A-17 summarizes the impacts of the preferred build alternative. The purposed build alternative for the SR-68, 500 South from 2600 South to I-15 Southbound ramps is a 5 lane meandering corridor with a 110-foot right-of-way width and an at-grade crossing at the UPRR crossing. Figure A-18 to A-30 provides a visual map of the preferred build alternative (110-foot right-of-way options) for the whole corridor (2600 South to I-15). Figures A-31 to A-32 provides a visual map of the 94-foot right-of-way option for the tightly constrained section of the corridor from 800 West to 700 West. The 94-foot right-of-way option provides the same operational improvements as the 110-foor right-of-way option, but only accommodates four-foot shoulders between 800 West and 700 West.

Access management will be determined through coordination of UDOT and Woods Cross and West Bountiful. Shoulder treatment will be determined through input of a citizens Context Sensitive Committee (CSC).

Subsequent to the draft of this report, the UTA/Commuter Rail project constructed a track switch for the Woods Cross station which conflicted with both the 110-foot and 94-foot right-of-way options. To remedy this conflict, the right-of-way widths were modified from 110 feet to 105 feet and 94 feet to 89 feet in the railroad crossing area. This was accomplished by eliminating the parkstrip and increasing the sidewalk width from four to six feet as noted on Figures A-11 and A-14. Figures A-29 through A-30 reflect the changes in right-of-way widths in the area of the railroad crossing.

References

Fehr & Peers Associates, Inc., SR-68, 2600 South in Davis County Traffic Report, March 2006.

H.W. Lochner, Inc., SR-68, 2600 South to I-15 in Davis County Existing Infrastructure & Geometric Conditions Report, November 2005

URS, 500 South Corridor Needs Assessment, February 2004

Appendix A

SR-68 BUILD ALTERNATIVE SCREENING PROCESS

Legend

- Project Purpose/Option Type
- Specific Option Considered To Meet Purpose and Need
- Preferred Option

Improve Capacity/Mobility

- 3-Lane
- 5-Lane

5-Lane

Improve Capacity/Mobility At Major Intersection : 500 South & UPRR Crossing

- 5-Lane with UPRR At-Grade Crossing
- 5-Lane with UPRR Grade Separation
- 5-Lane with UPRR Grade Separation & 800 West Realignment
- 5-Lane with UPRR At-Grade & 800 West Bypass Grade Separation
- 5-Lane with UPRR At-Grade & 800 West Bypass At-Grade

5-Lane with UPRR At-Grade Crossing

5 Lane ROW Typical Section Width Options

- 83-foot
- 89-foot
- 94-foot
- 100-foot
- 101.5-foot
- 106-foot
- 110-foot

110-Foot (Option: 94-foot Between 800 & 700 West)

Alignment of Option (5 Lane, 110 Foot)

- Symmetrical
- Shift West/North
- Shift East/South
- Meander

Meander

Serve as an Asset to West Bountiful & Woods Cross

- Access Management
- Shoulder Treatments
  - 7.5-Foot Park Strip & 7-Foot Shoulder
  - 4.5-Foot Park Strip & 12-Foot Shoulder

- Comply with UDOT/City Access Management Plan & Work with Citizen's CSC

Build Alternative

- 5-Lane
- 5-Lane with UPRR At-Grade Crossing
- 110-foot ROW (94-foot Option)
- Meander Alignment
- Access Management
- Context Sensitive Committee

Figure A-1

ALTERNATIVE PROGRESSION SUMMARY

Suggested Alternative	Alternative Progressed (→) or Eliminated (STOP)	Reason for Elimination
Improve Capacity / Mobility		
3-Lane	STOP	Did not provide acceptable mobility & LOS
5-Lane	→	
Improve Capacity / Mobility at 500 South & UPRR		
5-Lane with UPRR At-Grade Crossings	→	
5-Lane with UPRR Grade Separation	STOP	Excessive impacts compared to other alternatives which met P&N
5-Lane with UPRR Grade Separation & 800 West Realignment	STOP	Excessive impacts compared to other alternatives which met P&N
5-Lane with UPRR At-Grade & 800 West Bypass Grade Separation	STOP	Excessive impacts compared to other alternatives which met P&N
5-Lane with UPRR At-Grade & 800 West Bypass At-Grade	STOP	Excessive impacts compared to other alternatives which met P&N
5 Lane Typical Section Width		
83-Foot	STOP	Substandard x-section to meet corridor needs
89-Foot	STOP	Substandard x-section to meet corridor needs
94-Foot	→	Progressed for section between 800 West to 700 West
100-Foot	STOP	Substandard x-section to meet corridor needs
101.5-Foot	STOP	Substandard x-section to meet corridor needs
106-Foot	STOP	Substandard x-section to meet corridor needs
110-Foot	→	Progressed throughout project except in section from 800 West to 700 West
Alignment Option		
Symmetrical	STOP	Excessive impacts compared to other alighments
Shift West / North	STOP	Excessive impacts compared to other alighments
Shift East / South	STOP	Excessive impacts compared to other alighments
Meander	→	
Serve as an Asset to Cities		
Access Management		Build alternative to be constructed with UDOT and cities plan.
Shoulder Treatments - 7.5-foot Park Strip & 7-foot Shoulder		CSC committee to be developed which will evaluate aesthetic improvements in shoulder and median areas.
Shoulder Treatments - 4.5-foot Park Strip & 12-foot Shoulder		CSC committee to be developed which will evaluate aesthetic improvements in shoulder and median areas.

Figure A-2

Possible Solutions	Does Solution Meet Project Purpose & Need?				Explanation	Will This Solution be Included in a Proposed Alternative?
	Future (2030) Travel Demand	Connect to Nearby Transportation Facilities	Correct Roadway Problems	Provide Asset to Communities		
Install New Signals ▪ Signal at Westwood Mobile Home Park Entrance* ▪ Signal at 1300 West* ▪ Signal at 1100 West ▪ Signal at 800 West ▪ Signal at 700 West	No	Yes	No	Yes	By itself, this solution will not meet the purpose and need by significantly improving mobility or future travel demand, however signals will be included in other possible solutions to be studied. *Signals at 1300 West and the Westwood Mobile Home PUD are not included in the signal study.	✓
Widen Roadway ▪ Widen Redwood Road to Four Lanes ▪ Make the road as wide as possible. ▪ Widen Road and improve sidewalks within the 100' right-of-way ▪ Make the road as wide as possible (not the 100 feet that Woods Cross wants) ▪ Rush hour traffic is heavy and there needs to be 4 lanes. ▪ Widen with some more signals ▪ Widen Road on the North side ▪ Better School Bus Access ▪ Two Lanes in Each Direction ▪ 4 lanes, 2 each way, R/L turn lanes ▪ Widen 500 South ▪ Take property equally on both sides ▪ Sufficient and Safe Shoulder	No	Yes	Yes	Yes	Individual solutions to widen roadway do not meet purpose and need to improve mobility or correct all roadway problems. To meet the future demand, signal improvements would still be necessary. However, widening will be included in proposed alternatives to meet purpose and need.	✓
Improve Maintenance ▪ Shoulder Repairs ▪ Mow Grass in Drainage Ditches to Improve Intersection Sight Distance ▪ Keep Rut Holes Repaired	No	No	No	No	Correcting these maintenance issues does not meet the purpose and need by significantly improving mobility or future travel demand. As with any UDOT project, maintenance will continue throughout the life of the roadway.	✗
Install Turning Lanes ▪ Left Turn into Property ▪ Add a left turn lane into 847 West 500 South. ▪ Provide a turning lane for businesses off streets ▪ A well defined "feeder lane" ▪ Add Turn Lanes into Auto Auction Property ▪ Turning Lane into and out of Mobile Home Park ▪ Center/Turn lane from 800 West to Redwood	No	Yes	No	Yes	By itself, this solution will not meet the purpose and need by significantly improving mobility or future travel demand, however a turning lane will be included as part of the conceptual cross sections.	✓
Install Sidewalks ▪ No Sidewalks ▪ Sidewalks on both sides of the road ▪ No Parkway ▪ Add Curb and Gutter	No	Yes	No	Yes	This solution does accommodate other forms of transportation and may help correct some roadway problems. By itself, a sidewalk will not meet the purpose and need by significantly improving mobility or future travel demand, however a sidewalk will be included as part of the conceptual cross sections.	✓
Modify Railroad Schedule ▪ Railroad Crossings at Night (8:00 p.m. to 7:00 a.m.) ▪ Commuter Rail	No	No	No	No	The railroad schedule is subject to delivery schedules of the industries that the railroad serves. The project team will continue to encourage industrial industry schedule modifications. By itself, this solution will not meet the purpose and need by significantly improving mobility or future travel demand.	✗
Speed Limit/Law Enforcement ▪ Don't raise the speed limit ▪ More Consistent Speed Limit ▪ More Law enforcement ▪ Slow Traffic to 25 mph ▪ Make Speed Limit more Consistent ▪ More police patrols to enforce speed limits	No	No	No	No	The speed limits are set by using safety standards and taking into account the character of the roadway. Law enforcement will continue to patrol along the corridor. Overall, modifying the speed limit will not improve mobility of the SR-68 corridor nor correct existing roadway geometric and drainage issues.	✗
Vehicle Overpass at Railroad ▪ Non-stop Eastbound solution for commuters between 4-6 p.m.	No	Yes	No	Yes	A vehicle overpass alone will not improve mobility of the corridor, nor correct existing geometric and drainage issues. It will be considered in addition to other possible solutions.	✓
Railroad Overpass ▪ Raise the railroad grade to allow an underpass at grade for 500 South	No	No	No	No	Due to extraordinary impacts to the commuter rail, Union Pacific mainline and existing railroad facilities, this solution will not be considered.	✗
Improve I-15 Interchange ▪ SPUI Interchange at Freeway	No	Yes	No	Yes	Improvements to the I-15 and 500 South interchange have been included in the I-15 Draft Environmental Document and are not considered in this project.	✗

Possible Solutions	Does Solution Meet Project Purpose & Need?				Explanation	Will This Solution be Included in a Proposed Alternative?
	Future (2030) Travel Demand	Connect to Nearby Transportation Facilities	Correct Roadway Problems	Provide Asset to Communities		
Install a Bike Lane/Trail System ▪ Add a Bike Lane ▪ Put a bike lane on the sides of the road ▪ Better access to bike paths ▪ New Trail Systems for Pedestrian and Bikers especially between Legacy and Commuter Rail ▪ Bike Lane on both sides of the roadway ▪ Improve sidewalks, bikeways other access routes to Bountiful roadways around the Union Pacific Railroad	No	Yes	No	Yes	A trail system by itself does not meet future travel demand or correct roadway deficiencies. Woods Cross and West Bountiful have trail systems that are included in the city's master plans. Accommodation of bicycles, pedestrians, etc., is a part of the conceptual solutions. These solutions will be included and connected to planned trail systems and bike lanes.	✓
Raised Medians ▪ No Raised Islands ▪ Crossable Median	No	Yes	No	Yes	Access control does improve the mobility of the corridor, but medians alone will not meet future travel demand of the corridor, nor correct existing geometric and drainage issues. Planter boxes are part of the cities Master Plans. Medians will be evaluated as part of the conceptual solutions in accordance with Woods Cross and West Bountiful City's master plans.	?
Install a Noise Wall ▪ Wall to reduce exhaust, dust and dirt	No	No	No	Yes	A noise wall alone will not improve mobility of the corridor, nor correct existing geometric and drainage issues. Noise analysis will be conducted as part of this study to determine mitigation measures.	?
Deceleration Lane into Wood Haven Mobile Home Park	No	No	No	No	Wider shoulders for the corridor are being considered as part of the conceptual solutions. These wider shoulders could be used to assist motorists in making turns into the mobile home entrance.	✗
No Parking Zones for Semis	No	No	No	No	This solution will not address the current transportation needs for SR-68. Some conceptual cross sections have a narrower shoulder which would not allow on-street parking.	✗
Extend Redwood Road North	No	No	No	No	This idea should be coordinated with local entities and does not meet the SR-68 purpose and need.	✗
Signs at 800 West to prohibit left turns at 800 West	No	No	No	No	This idea will not be considered because the south leg of 800 West will be closed as part of Woods Cross Master Plan and the commuter rail project.	✗
Different Detour Route for I-15	No	No	No	No	SR-68 is not considered to be a detour route for I-15. Current and future corridor traffic needs (excluding crashes on I-15) require improved mobility on the corridor.	✗
Don't do anything ▪ Leave it alone	No	No	No	No	A No Build Option will be progressed through the entire environmental process due to NEPA regulations	✓
Fix Railroad Track Crossing at 800 West	No	Yes	No	Yes	This solution will be advanced with the grade separation solution and the road widening solutions.	✓
Frontage Road if Street is Widened	No	No	No	No	A frontage road would not meet the goals of the purpose and need by not improving mobility or correcting roadway and drainage problems. A frontage road is not consistent with Woods Cross and West Bountiful City's Master Plans.	✗
Need Fence Around Yards to Protect Smaller Children	No	No	No	No	Fencing alone will not improve mobility of the corridor, nor correct existing geometric and drainage issues. This could be included as part of the aesthetic landscaping solutions.	?
Surface water collects in front of house during storms	No	No	No	No	This is not considered a solution, but drainage issues will be corrected as part of the conceptual solutions.	✗

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UDOT CONNECTING COMMUNITIES

0 100 400 300 400 500

Scale In Feet

CONCEPTUAL SOLUTIONS

SR-68
2600 South
to I-15 in Davis County

Conceptual Solution: Alternative 4 (2030 5 Lane with UPRR At-Grade Crossing)

HOLLY OIL REFINERY

UNION PACIFIC RAILROAD

800 WEST

At-Grade Intersection

Proposed UTA Track Alignment

Proposed UTA Station

500 SOUTH

700 WEST

FIGURE A-4

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UDOT CONNECTING COMMUNITIES

0 100 400 300 400 500

Scale In Feet

CONCEPTUAL SOLUTIONS

SR-68 2600 South to I-15 in Davis County

Conceptual Solution: Alternative 5 (5-Lane With UPRR Grade Seperation)

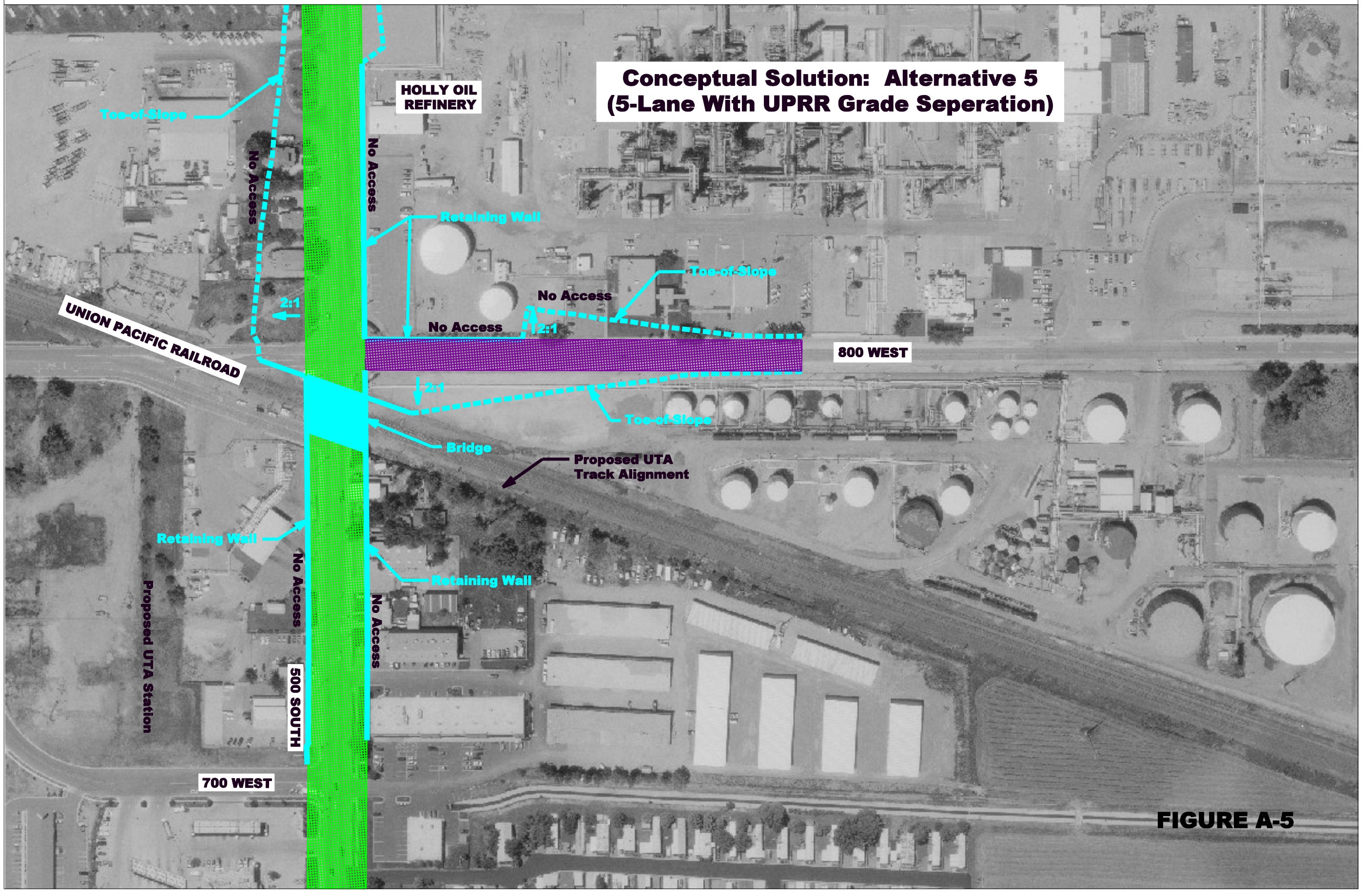


FIGURE A-5

UDOT CONNECTING COMMUNITIES

0 100 400 300 400 500

Scale In Feet

N

CONCEPTUAL SOLUTIONS

SR-68 2600 South to I-15 in Davis County

Conceptual Solution: Alternative 6
(5-Lane With UPRR Grade Seperation & 800 West Realignment)

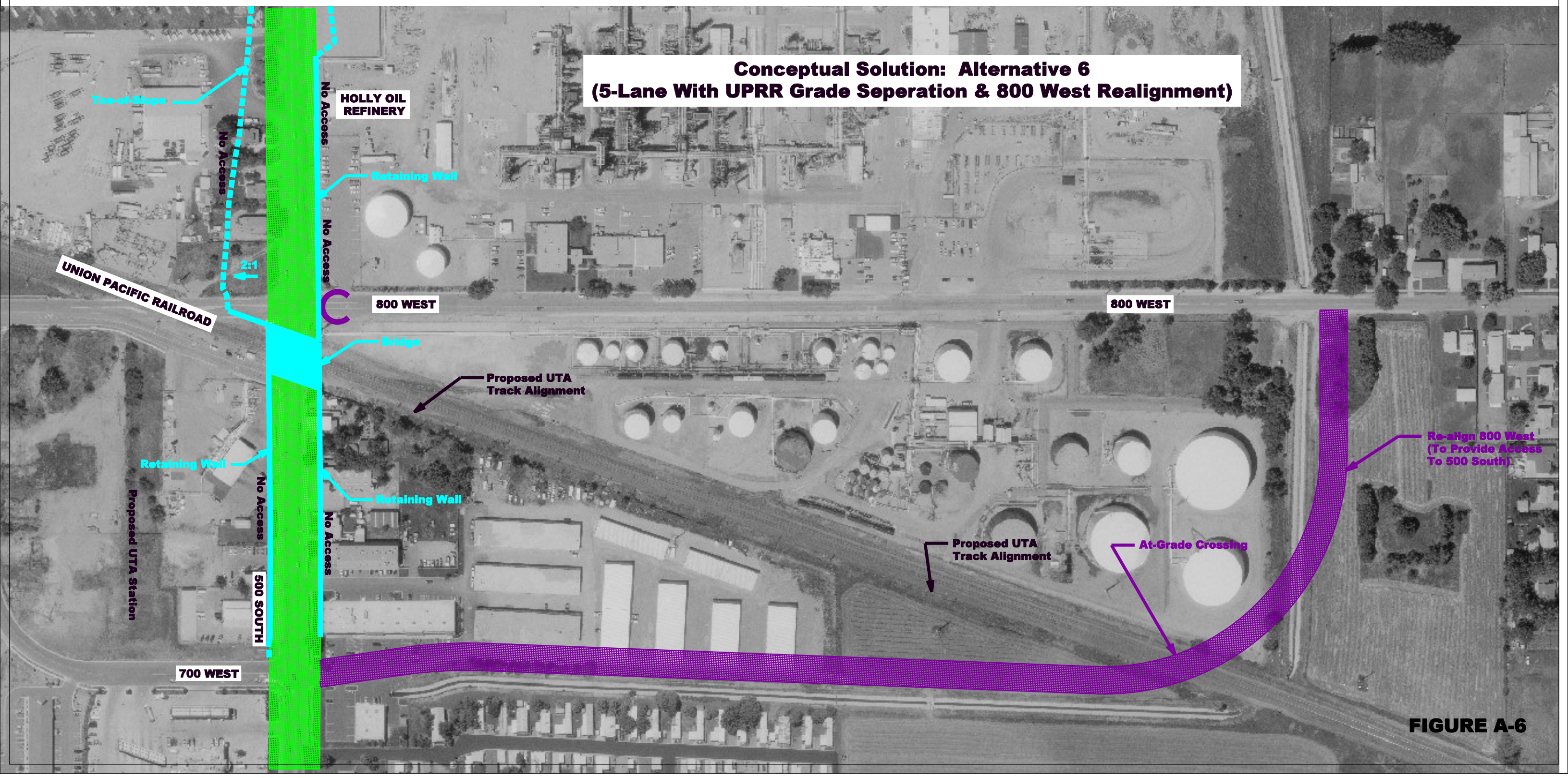


FIGURE A-6

UDOT CONNECTING COMMUNITIES

0 100 400 300 400 500

Scale In Feet

N

CONCEPTUAL SOLUTIONS

SR-68 2600 South to I-15 in Davis County

Conceptual Solution: Alternative 7
(5-Lane With UPRR At-Grade & 800 West By-pass Route Grade Seperated)

HOLLY OIL REFINERY

UNION PACIFIC RAILROAD

800 WEST

800 WEST

At-Grade Crossing

Proposed UTA Track Alignment

End Culvert

Re-align 800 West (To Provide Access To 500 South)

Toe-of-Slope

2:1

Retaining Wall

Bridge

Proposed UTA Track Alignment

Proposed UTA Station

500 SOUTH

Toe-of-Slope

Retaining Wall

2:1

Toe-of-Slope

700 WEST

Begin Culvert

Toe-of-Slope

2:1

Retaining Wall

FIGURE A-7

UDOT CONNECTING COMMUNITIES

0 100 400 300 400 500

Scale In Feet

CONCEPTUAL SOLUTIONS

SR-68
2600 South
to I-15 in Davis County

Conceptual Solution: Alternative 8
(5-Lane With UPRR At-Grade & 800 West By-pass Route At-Grade)

HOLLY OIL REFINERY

UNION PACIFIC RAILROAD

800 WEST

800 WEST

At-Grade Crossing

Proposed UTA Track Alignment

Re-align 800 West (To Provide Access To 500 South)

Proposed UTA Track Alignment

Proposed UTA Station

500 SOUTH

700 WEST

FIGURE A-8

Progression of Alternatives to Improve Capacity/Mobility at the 500 South PURR Intersection

Conducted Community Interviews

Establish Purpose and Need
- Improve Future Mobility
- Provide Safe & Efficient Connections to Nearby Transportation Facilities
- Correct Geometric and Drainage Problems
- Serve as an Asset to the Communities of Woods Cross and West Bountiful

Held Open House November 29, 2005

Compiled Comments & Further Analyzed Alternatives

Alternatives		SCREENING: Alternative's Ability to Meet Purpose & Need *(See Notes Column for*	Ability to Meet CSS Objectives	Estimated Costs	Cost Benefit		Notes
Alt. No.	Description				*Comparative Cost*	*Corridor Mobility Relative to Cost*	
1	2030 No Build*	→	LOW	LOW	-	N/A	Carried forward in accordance with NEPA Regulations
2	2030 Spot Improvements, UPRR At-Grade Crossing	STOP	N/A	N/A	-	N/A	Does not meet traffic capacity for design year 2030
3	2030 Spot Improvements, UPRR Grade Separation	STOP	N/A	N/A	-	N/A	Does not meet traffic capacity for design year 2030
4	2030 5-Lane with UPRR At-Grade Crossing	→	SUFFICIENT	MEDIUM	$	....	
5	2030 5-Lane with UPRR Grade Separation	STOP	HIGH	HIGH	$$$	..	Alternative not advanced due to impacts. Letter of concurrence signed by cities after stakeholder workshop held on March 21, 2006.
6	2030 5-Lane with UPRR Grade Separation and 800 West Realignment (At-Grade Crossing with UPRR)	STOP	HIGH	HIGH	$$$$	.	Alternative not advanced due to impacts. Letter of concurrence signed by cities after stakeholder workshop held on March 21, 2006. At grade crossing of realigned 800 West not possible due to UPRR using side track for storage.
7	2030 5-Lane with UPRR At-Grade and 800 West By-pass Route Grade Separated	STOP	SUFFICIENT	HIGH	$$$$	.	Alternative not advanced due to impacts. Letter of concurrence signed by cities after stakeholder workshop held on March 21, 2006.
8	2030 5-Lane with UPRR At-Grade and 800 West Realignment At-Grade**	STOP	SUFFICIENT	MEDIUM	$$	..	Alternative Suggested by Stakeholders After November 29th Open House. Alternative not advanced due to impacts. Letter of concurrence signed by cities after stakeholder workshop held on March 21, 2006. At grade crossing of realigned 800 West not possible due to UPRR using side track for storage.

Develop Typical Right-of-Way Section Impacts Table

Figure A-9

Alignment Impact Summary For 110-foot Right-of-Way

Analyzed Alternative Typical Sections & Impacts

Typical Sections		Impacts										
		Residential		Business		Vacant	Environmental					
Typical Section Width	*Direction of Shift*	*Strip Takes*	*Relocations*	*Strip Takes*	*Relocations*	*Strip Takes*	*Historic**	*Wetlands*	*Archeological*	Notes	Progressed Typical Sections	Notes
2600 South to 500 South (Redwood Road)												
110 Feet	West	12	1	2	1	14	6	4	0		STOP	ROW Width is R1 Standard
110 Feet	East	0	0	24	2	16	1	5	0			
110 Feet	Center	9	1	29	3	28	7	9	0			
110 Feet	Meander	6	1	6	1**	17	3	8	0			
Redwood Road to 1100 West												
110 Feet	North	1	1	14	0	5	1	2	0		STOP	ROW Width is R1 Standard
110 Feet	South	4	11	1	1	6	0	0	0			
110 Feet	Center	6	12	10	1	10	1	2	0			
110 Feet	Meander	4	1	9	0	7	1	2	0			
1100 West to 800 West												
110 Feet	North	0	1	5	0	3	0	0	0	Utility Impacts @ Refinery	STOP	ROW Width is R1 Standard
110 Feet	South	1	4	5	4	3	2	0	0			
110 Feet	Center	3	3	10	3	6	2	0	0			
110 Feet	Meander	1	5	11	0	6	1	0	0			
800 West to 700 West												
94 Feet	North	0	2	3	0	0	1	0	0		STOP	
94 Feet	South	0	0	2	1	0	0	0	0			
94 Feet	Center	0	2	6	0	0	1	0	0			
94 Feet	Meander	0	2	8***	0	0	1	0	0			
110 Feet	North	0	2	0	3	0	1	0	0	Strip Mall Relocation	STOP	ROW Width is R1 Standard; Meander to avoid filling station; historic property total take
110 Feet	South	0	0	0	3	0	1	0	0	Fill Station & Historical Mech. Shop		
110 Feet	Center	0	2	1	5	0	2	0	0	Fill Station & Strip Mall Relocation		
110 Feet	Meander	1	2	5***	4	0	2	0	0			
700 West to I-15 Southbound Ramps												
110 Feet	North	1	0	0	0	0	0	0	0		STOP	ROW Width is R1 Standard; moving south will avoid residential strip take; saves sentimental tree in front yard
110 Feet	South	0	0	1	0	0	0	0	0			
110 Feet	Center	1	0	1	0	0	0	0	0			
110 Feet	Meander	1	0	2	0	0	0	0	0			

Choose Preferred Typical Section Width and Alignment

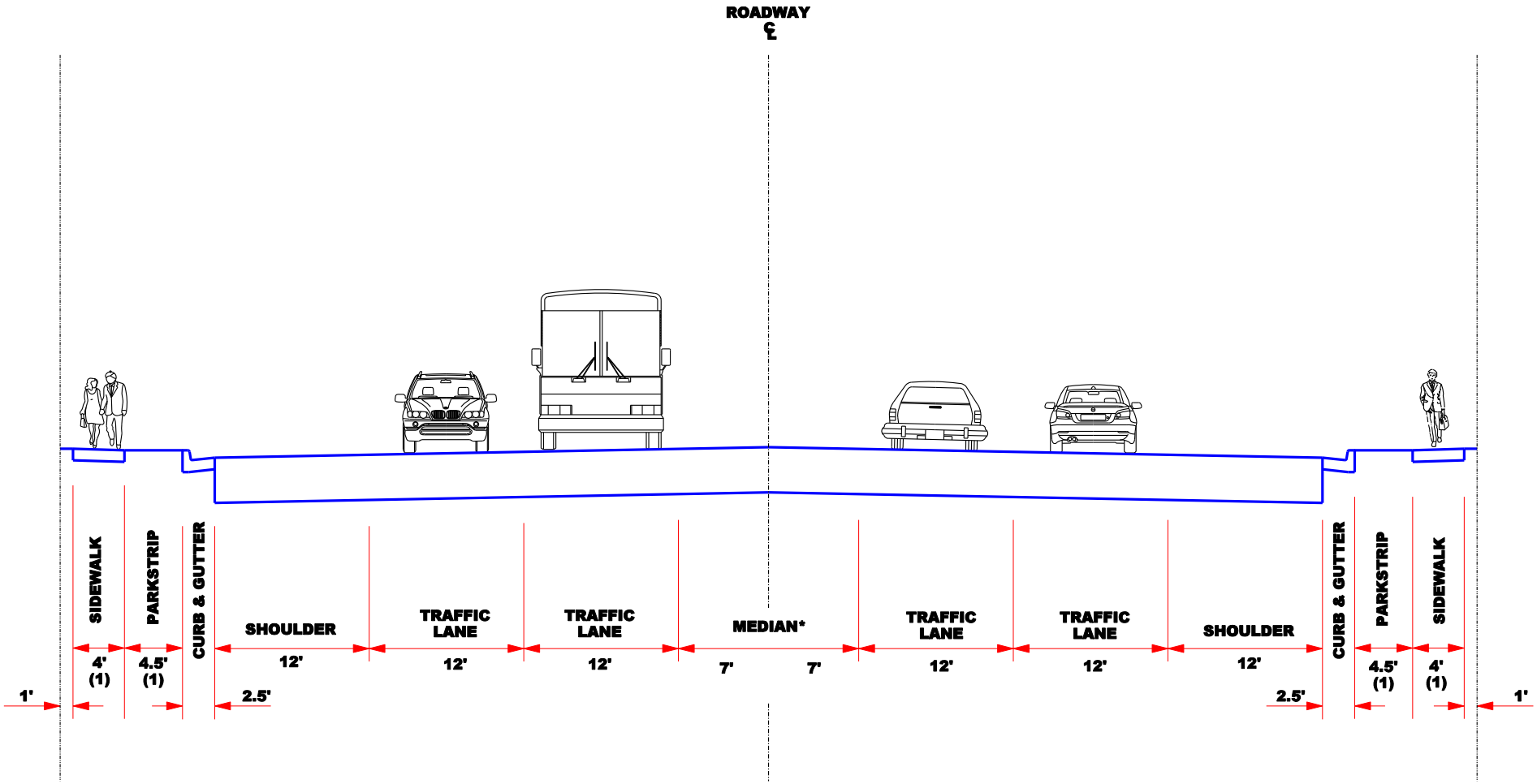
*Historic impacts include relocations & strip takes

**Scale house to be relocated, same property as residential relocation in this section of corridor.

***To accommodate the location of the newly constructed UTA/Commuter Rail switch, the number of business strip takes for the 110-foot option was increased from four (previously shown) to five and for the 94-foot option, business strip takes increased from seven (previously shown) to eight.

Figure A-10

110' ROW TYPICAL SECTION



*MEDIAN TREATMENT TO BE DETERMINED BY UDOT/WOODS CROSS/WEST BOUNTIFUL/SR-68 ACCESS MANAGEMENT PLAN

NOTE:

(1) TO ACCOMODATE THE LOCATION OF THE NEWLY CONSTRUCTED UTA/COMMUTER RAIL SWITCH, THE PARKSTRIP IS REMOVED AND THE SIDEWALK WIDTH IS INCREASED FROM FOUR FEET TO SIX FEET ACROSS THE UPRR AND UTA/COMMUTER RAIL AT-GRADE CROSSING. TOTAL RIGHT-OF-WAY WIDTH IS MODIFIED IN THIS LOCATION FROM 110 FEET TO 105 FEET.

Figure A-11

106' ROW TYPICAL SECTION

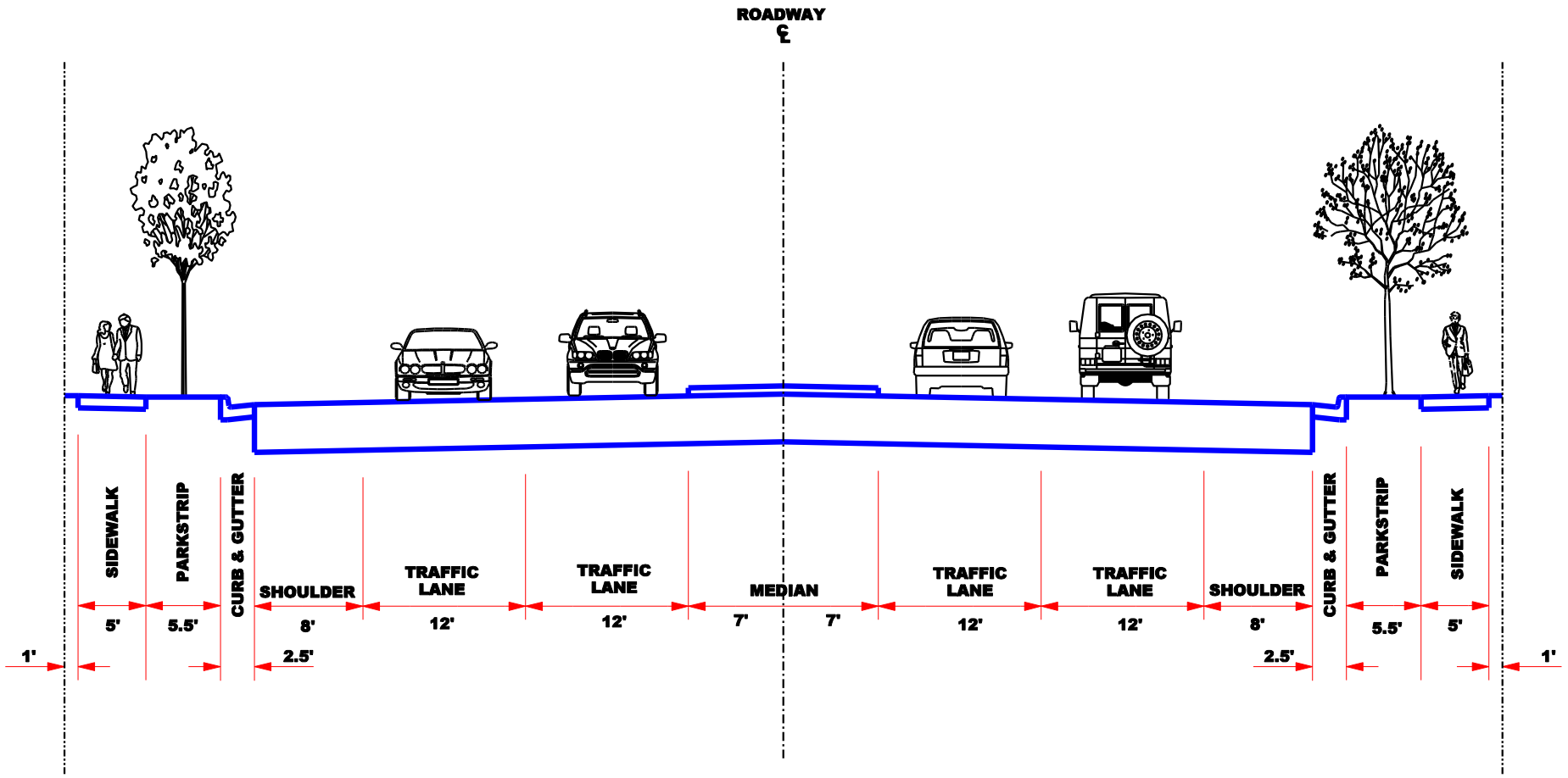


Figure A-12

100' ROW TYPICAL SECTION

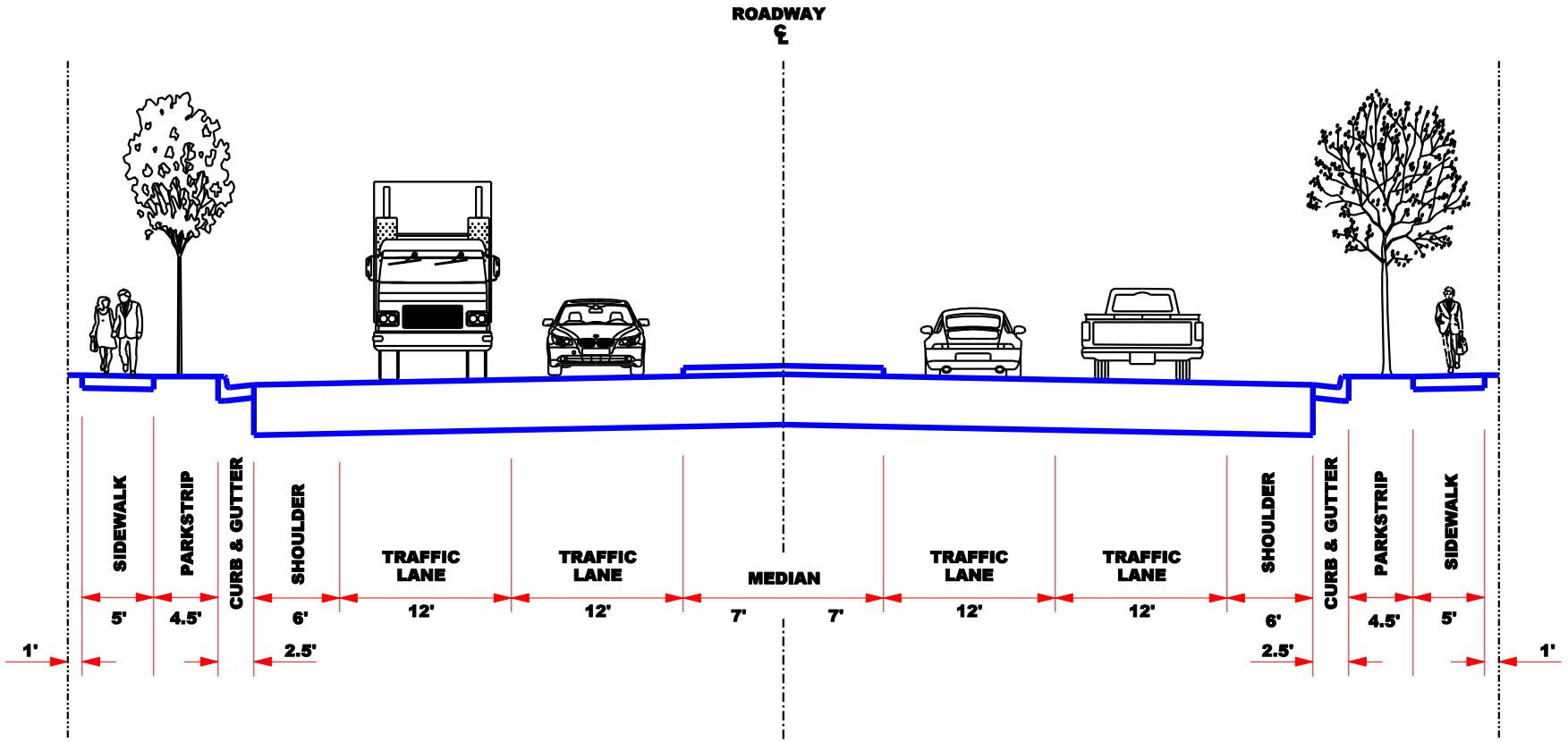
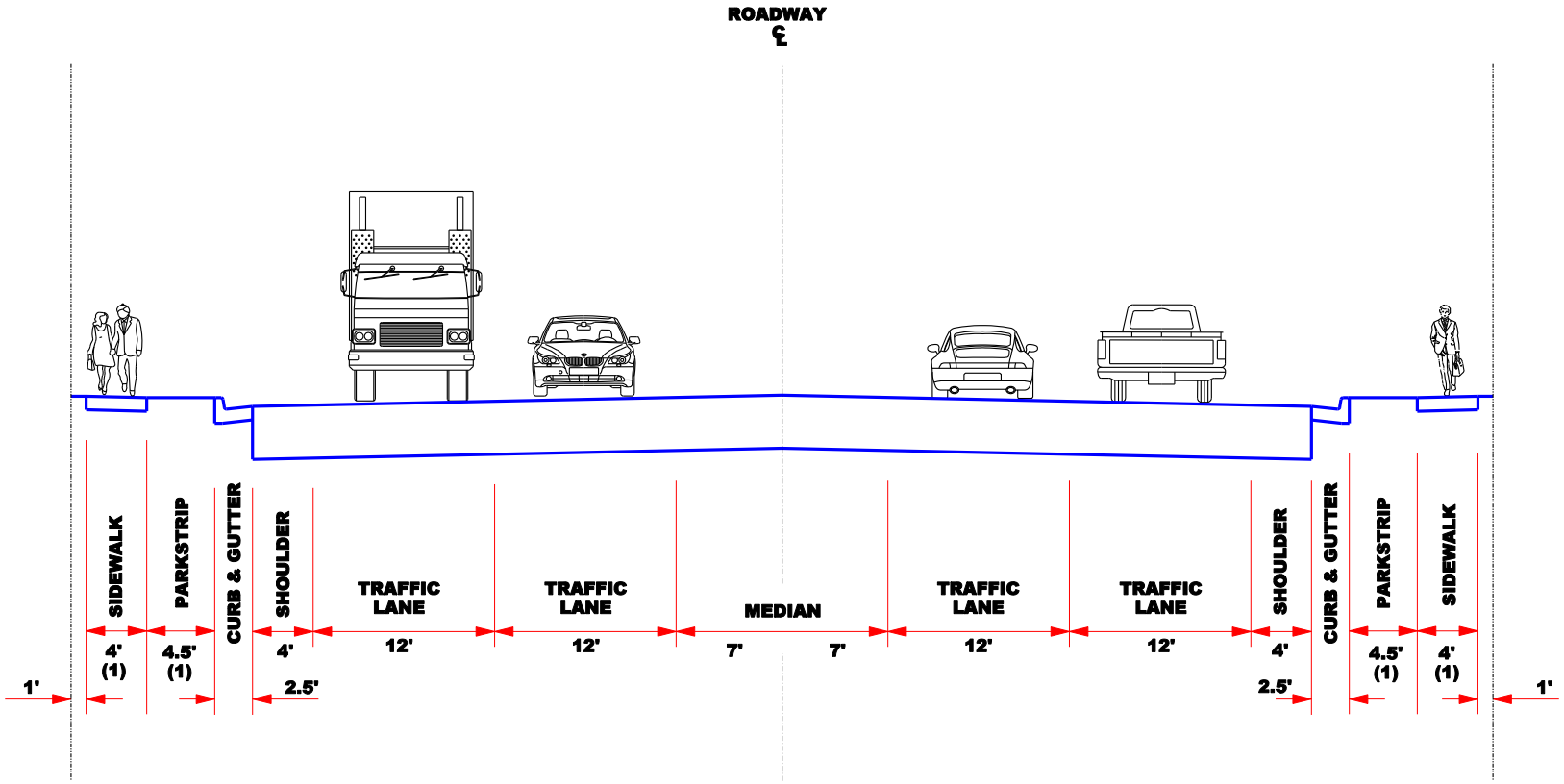


Figure A-13

94' ROW TYPICAL SECTION



***MEDIAN TREATMENT TO BE DETERMINED BY UDOT/WOODS CROSS/WEST BOUNTIFUL/SR-68 ACCESS MANAGEMENT PLAN**

NOTE:

(1) TO ACCOMODATE THE LOCATION OF THE NEWLY CONSTRUCTED UTA/COMMUTER RAIL SWITCH, THE PARKSTRIP IS REMOVED AND THE SIDEWALK WIDTH IS INCREASED FROM FOUR FEET TO SIX FEET ACROSS THE UPRR AND UTA/COMMUTER RAIL AT-GRADE CROSSING. TOTAL RIGHT-OF-WAY WIDTH IS MODIFIED IN THIS LOCATION FROM 94 FEET TO 89 FEET.

Figure A-14

89' ROW TYPICAL SECTION

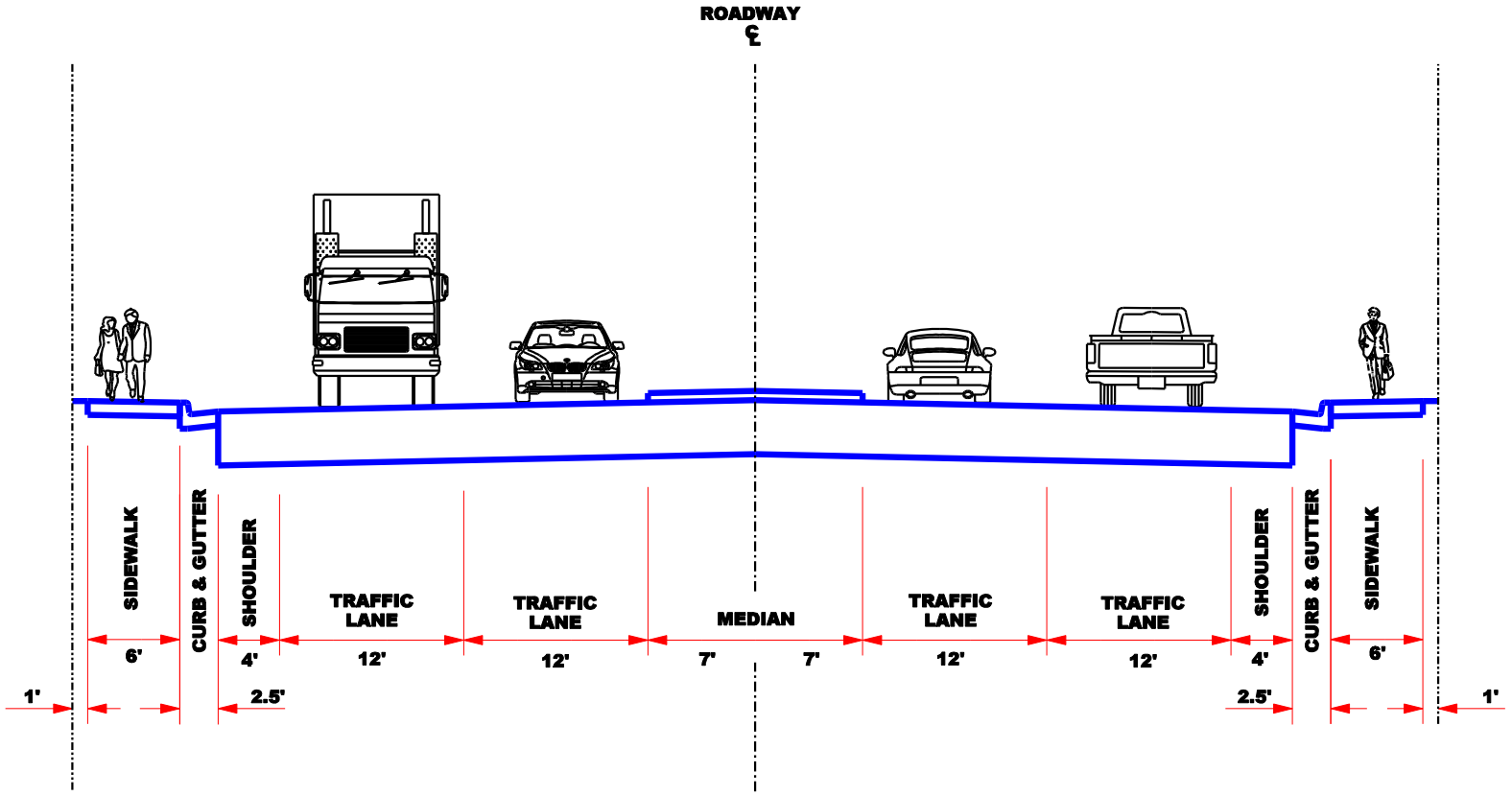


Figure A-15

83' ROW TYPICAL SECTION

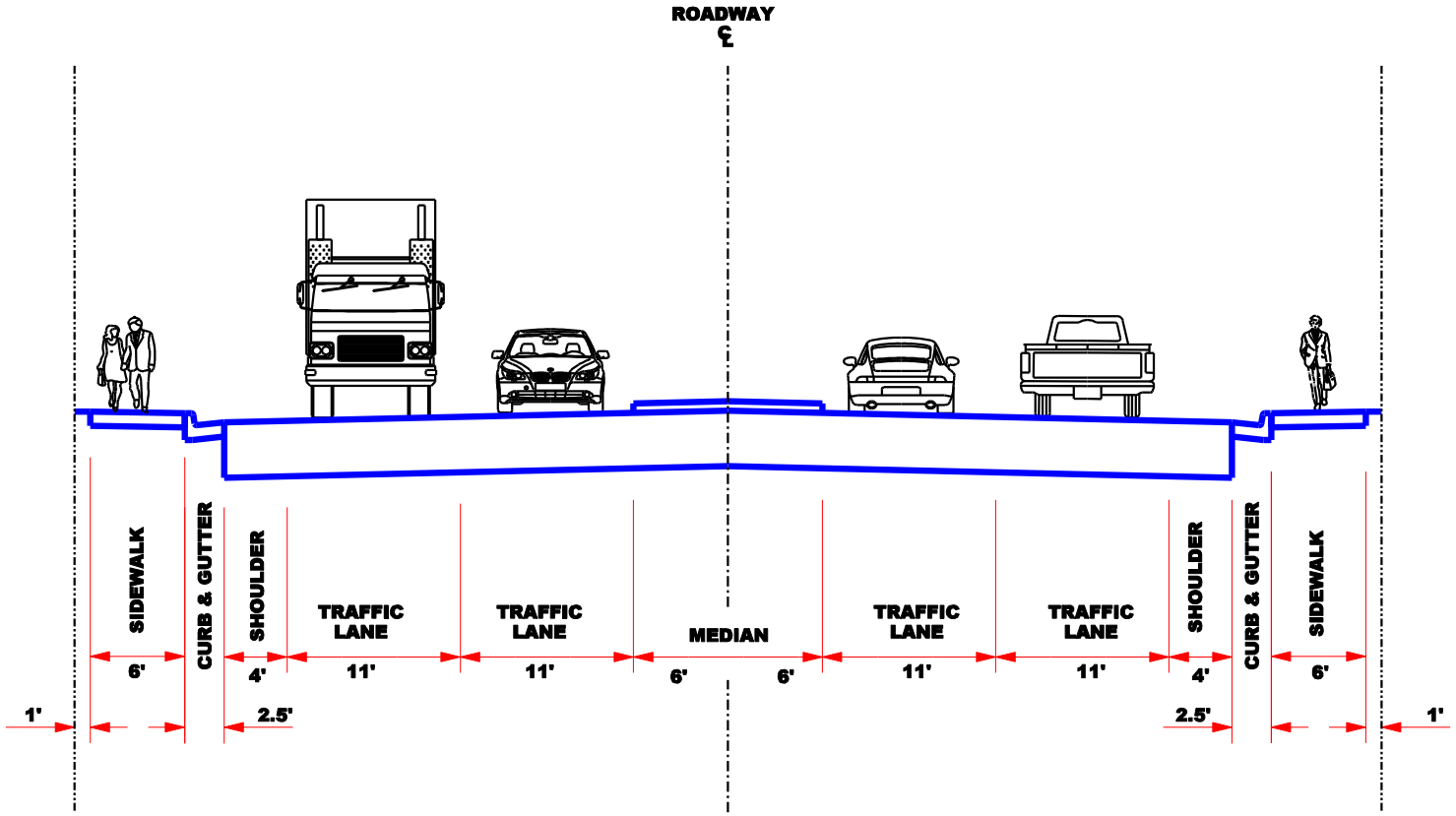


Figure A-16

Proposed Build Alternative Summary of Impacts

110-Foot Build Alternative Impacts

Alternative	Residential		Business		Undeveloped Land	Historical Impacts*		Jurisdictional Resources	
	Strip Takes	Relocation	Strip Takes	Relocations		Strip Take	Total Take	Ditches	Wetlands
	Each	Each	Each	Each	Each Parcel	Each	Each	Linear Feet	Acres
Redwood Road (2600 South - 500 South)									
110' Typical Section (Matching East R/W)	6	1	6	1**	17	3	0	1614	0.04
500 South (Redwood Road - 1100 West)									
110' Typical Section Width Meander	4	1	9	0	7	1	0	692	0
500 South (1100 West - 800 West)									
110' Typical Section Width Meander	1	5	11	0	6	1	0	0	0
500 South (800 West - 700 West)									
110' Typical Section Width Meander	0	2	5***	4	0	1	1	0	0
500 South (700 West - I-15 SB Ramps)									
110' Typical Section Width Meander	1	0	2	0	0	0	0	0	0.0004
TOTAL IMPACTS	**12**	**9**	**33**	**5**	**30**	**6**	**1**	**2306**	**0.0404**

* Historical impacts include relocations & strip takes.

**Scale house to be relocated, same property as residential relocation in this section of corridor.

110-Foot Build Alternative with 94-Foot Option Between 700 West & 800 West

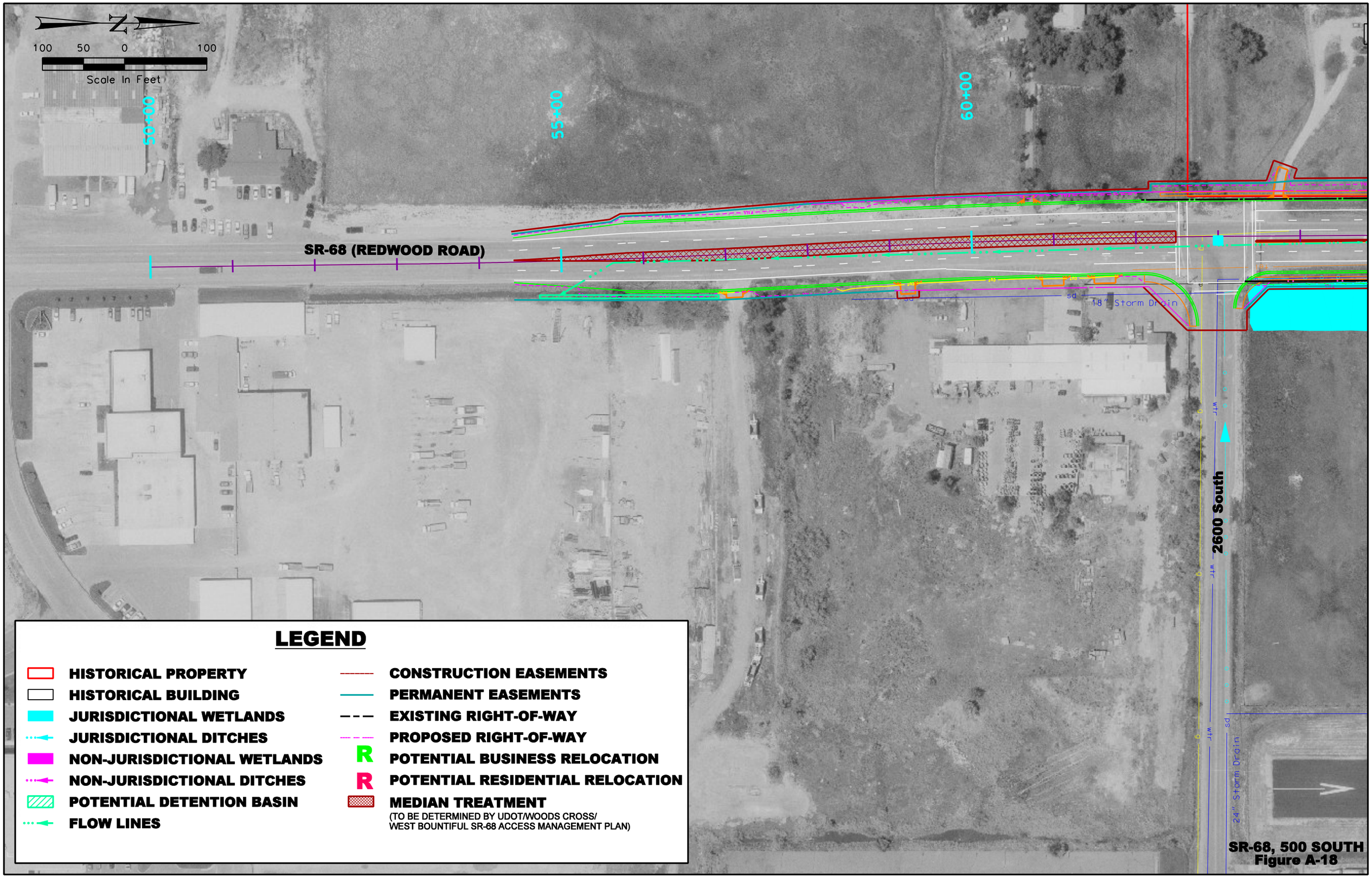
Alternative	Residential		Business		Undeveloped Land	Historical Impacts*		Jurisdictional Resources	
	Strip Takes	Relocation	Strip Takes	Relocations		Strip Take	Total Take	Ditches	Wetlands
	Each	Each	Each	Each	Each Parcel	Each	Each	Linear Feet	Acres
Redwood Road (2600 South - 500 South)									
110' Typical Section (Matching East R/W)	6	1	6	1**	17	3	0	1614	0.04
500 South (Redwood Road - 1100 West)									
110' Typical Section Width Meander	4	1	9	0	7	1	0	692	0
500 South (1100 West - 800 West)									
110' Typical Section Width Meander	1	5	11	0	6	1	0	0	0
500 South (800 West - 700 West)									
94' Typical Section Width Meander	0	2	8***	0	0	1	1	0	0
500 South (700 West - I-15 SB Ramps)									
110' Typical Section Width Meander	1	0	2	0	0	0	0	0	0.0004
TOTAL IMPACTS	**12**	**9**	**36**	**0**	**30**	**6**	**1**	**2306**	**0.0404**

* Historical impacts include relocations & strip takes.

**Scale house to be relocated, same property as residential relocation in this section of corridor.

***To accommodate the location of the newly constructed UTA/Commuter Rail switch, the number of business strip takes for the 110-foot option increased from four (previously shown) to five, and the 94-foot option business strip takes increased from seven (previously shown) to eight.

Figure A-17



SR-68, 500 SOUTH
Figure A-18

N

100 50 0 100

Scale In Feet

60+00

65+00

70+00

2425 South

2600 South

18" Storm Drain

24" Storm Drain

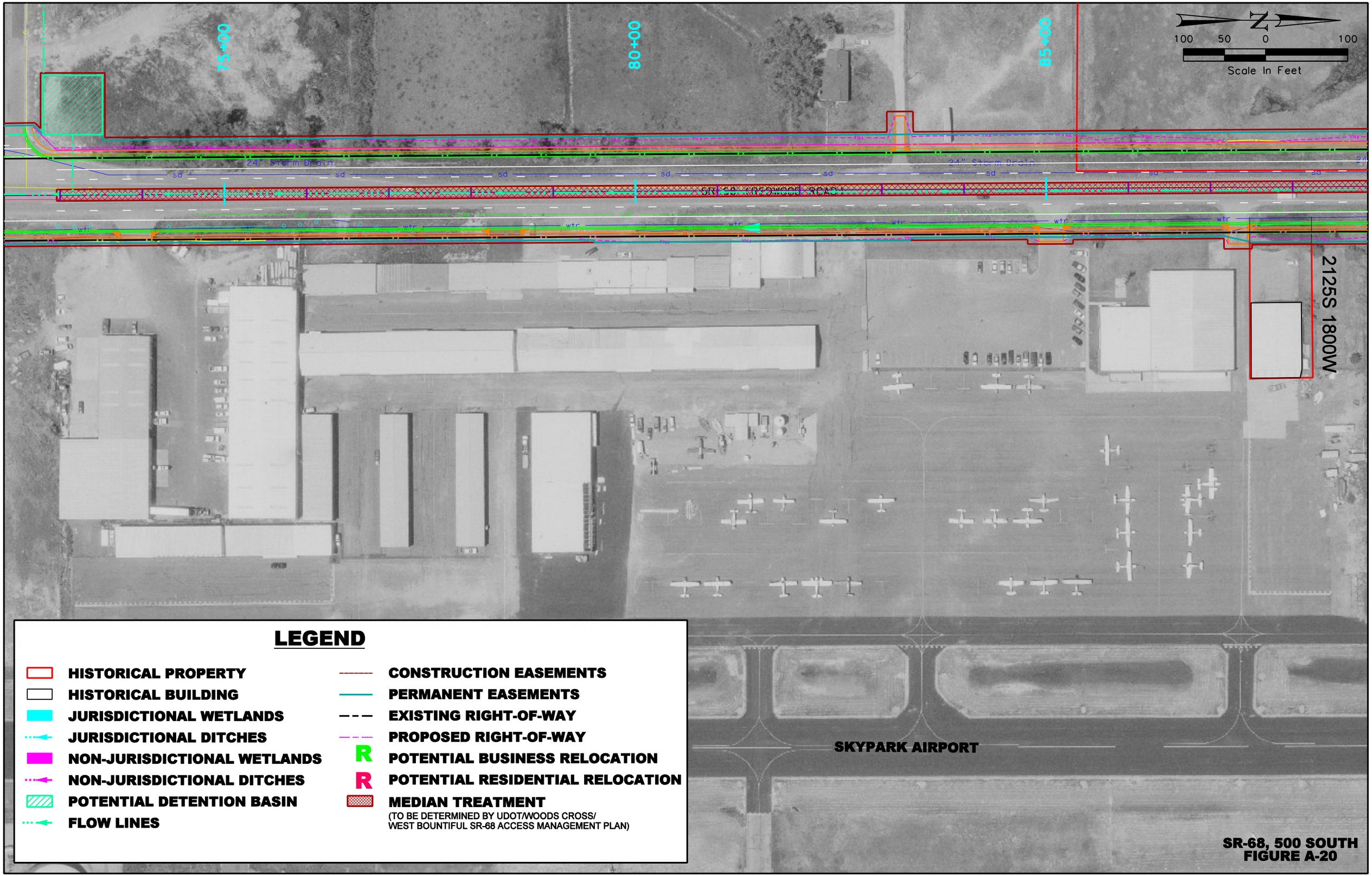
15" Storm Drain

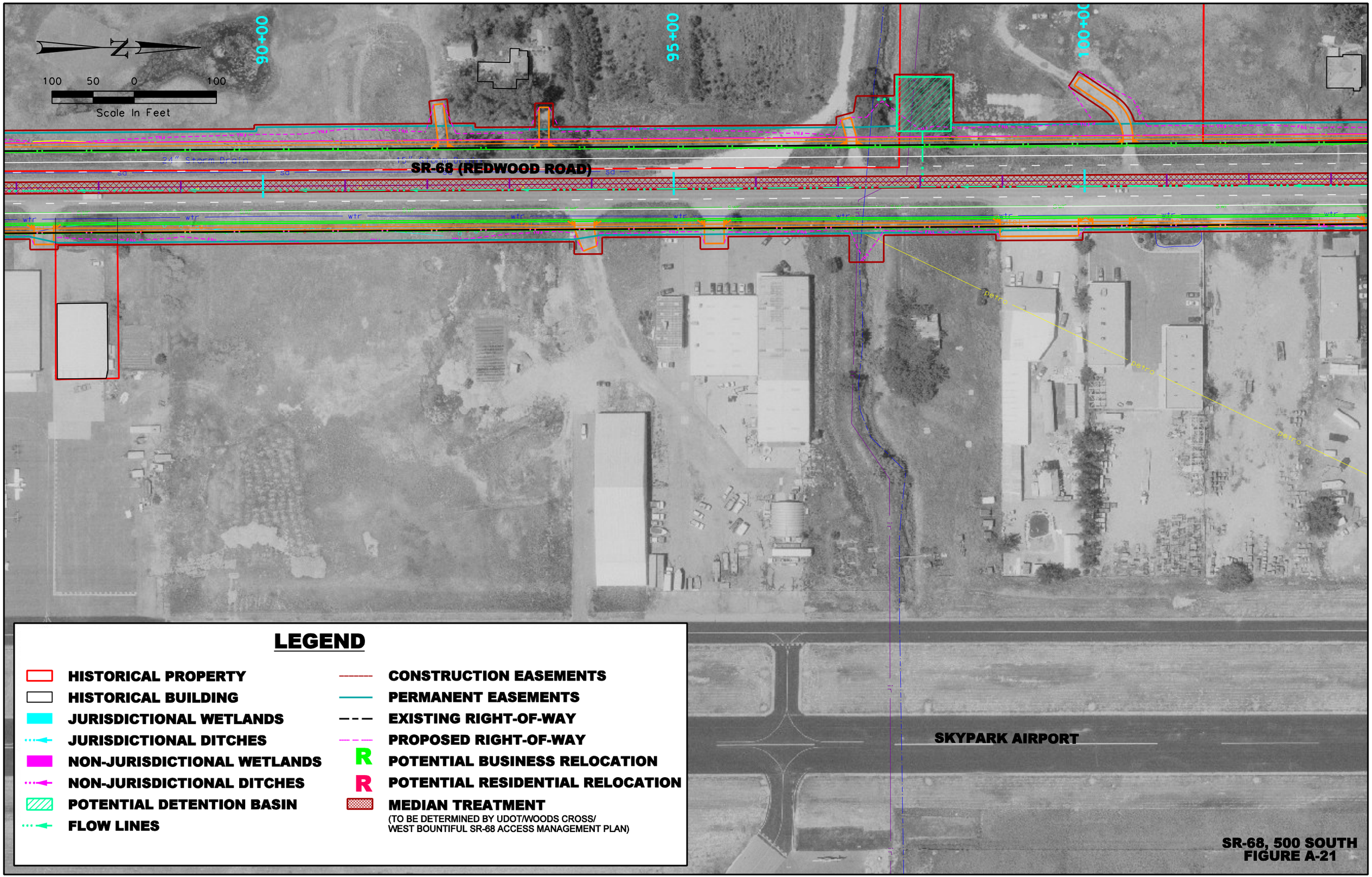
SKYPARK AIRPORT

LEGEND

- HISTORICAL PROPERTY
- HISTORICAL BUILDING
- JURISDICTIONAL WETLANDS
- JURISDICTIONAL DITCHES
- NON-JURISDICTIONAL WETLANDS
- NON-JURISDICTIONAL DITCHES
- POTENTIAL DETENTION BASIN
- FLOW LINES
- CONSTRUCTION EASEMENTS
- PERMANENT EASEMENTS
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- R POTENTIAL BUSINESS RELOCATION
- R POTENTIAL RESIDENTIAL RELOCATION
- MEDIAN TREATMENT
  (TO BE DETERMINED BY UDOT/WOODS CROSS/ WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)

SR-68, 500 SOUTH
FIGURE A-19

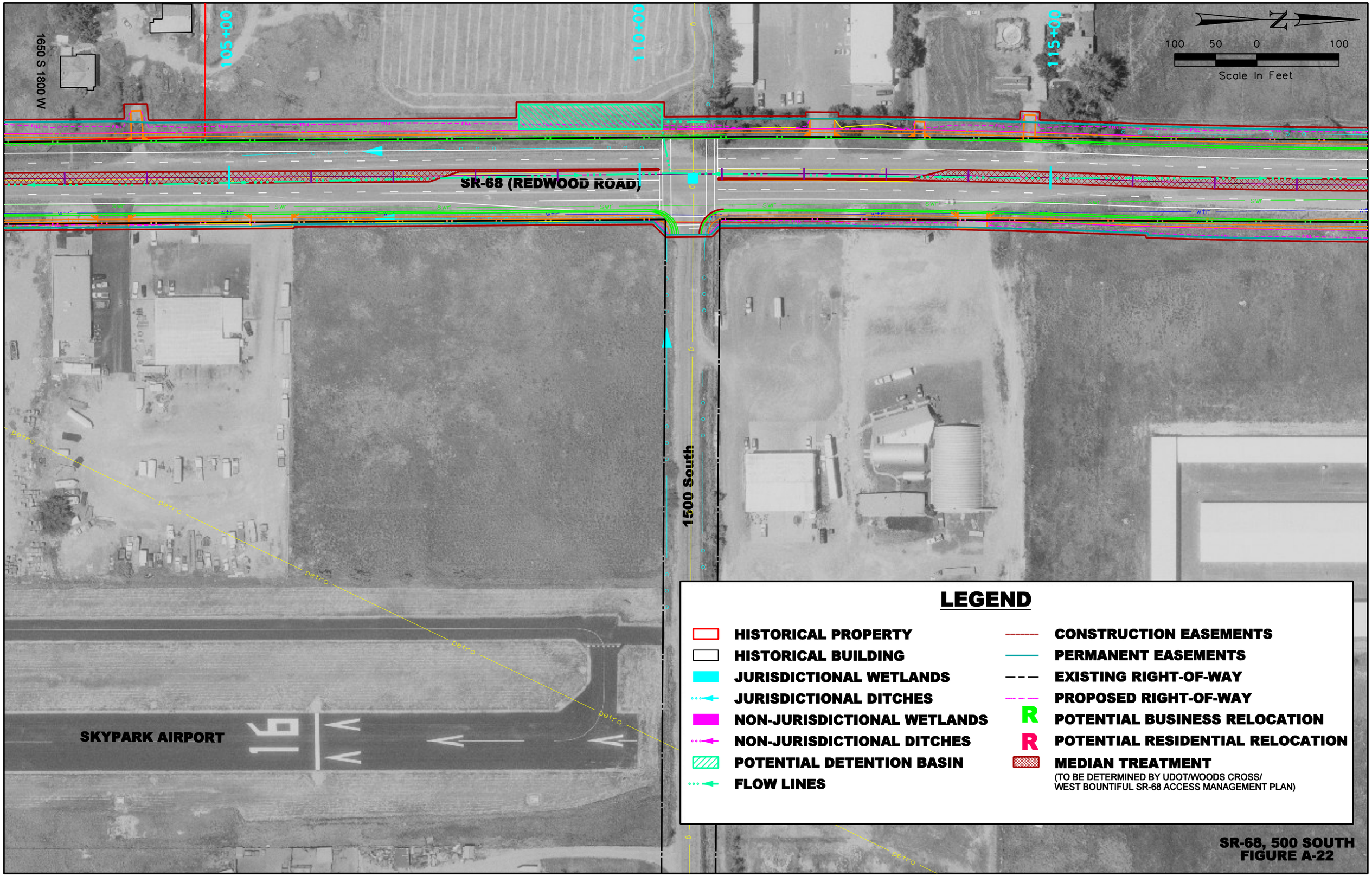

00+57
00+08
00+58
N
100 50 0 100
Scale In Feet
24" Storm Drain
24" Storm Drain
sd
wtr
swr
SR-68 (REDWOOD ROAD)
2125S 1800W
SKYPARK AIRPORT
LEGEND
HISTORICAL PROPERTY
HISTORICAL BUILDING
JURISDICTIONAL WETLANDS
JURISDICTIONAL DITCHES
NON-JURISDICTIONAL WETLANDS
NON-JURISDICTIONAL DITCHES
POTENTIAL DETENTION BASIN
FLOW LINES
CONSTRUCTION EASEMENTS
PERMANENT EASEMENTS
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
R POTENTIAL BUSINESS RELOCATION
R POTENTIAL RESIDENTIAL RELOCATION
MEDIAN TREATMENT
(TO BE DETERMINED BY UDOT/WOODS CROSS/
WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)
SR-68, 500 SOUTH
FIGURE A-20

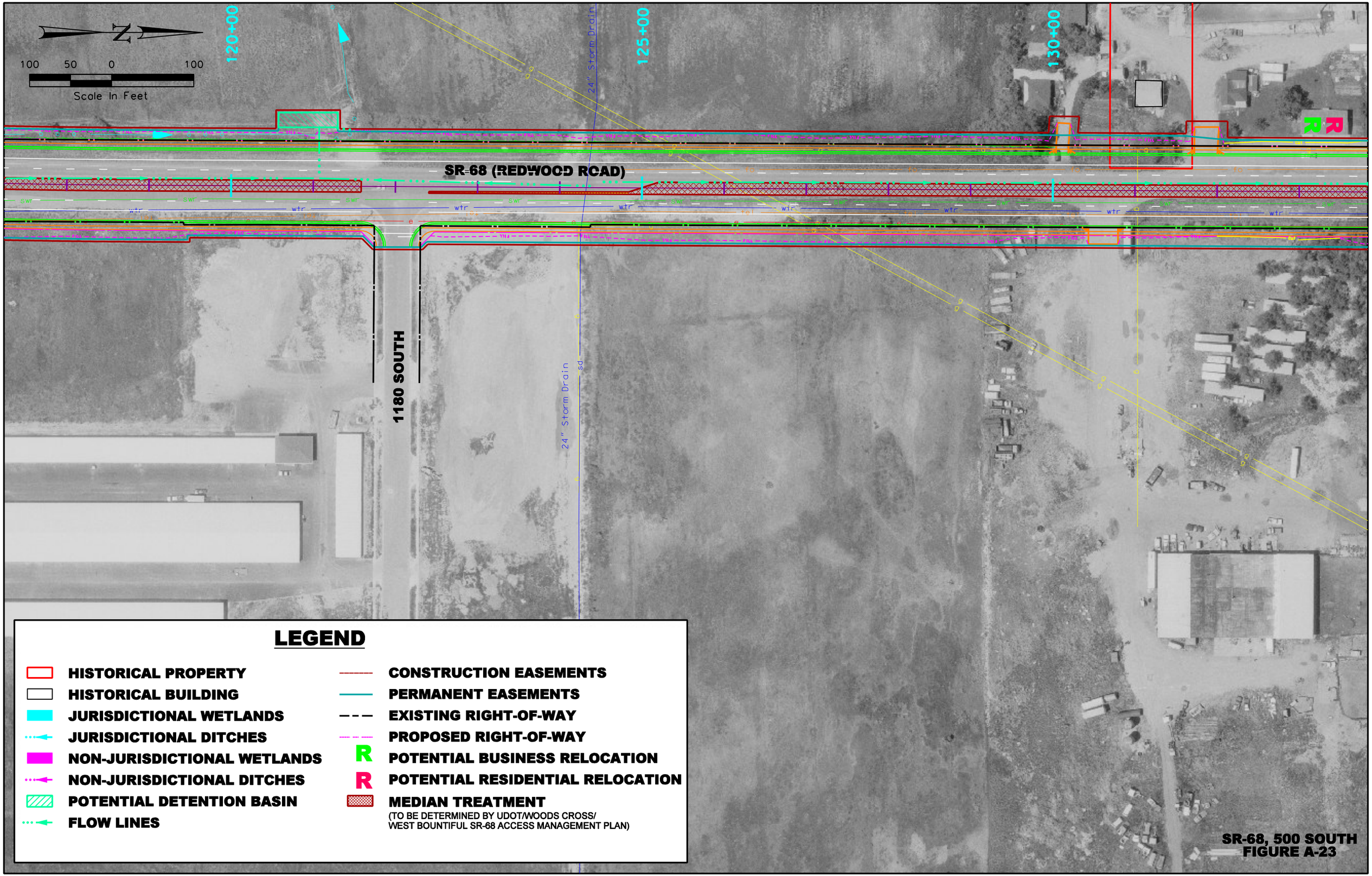


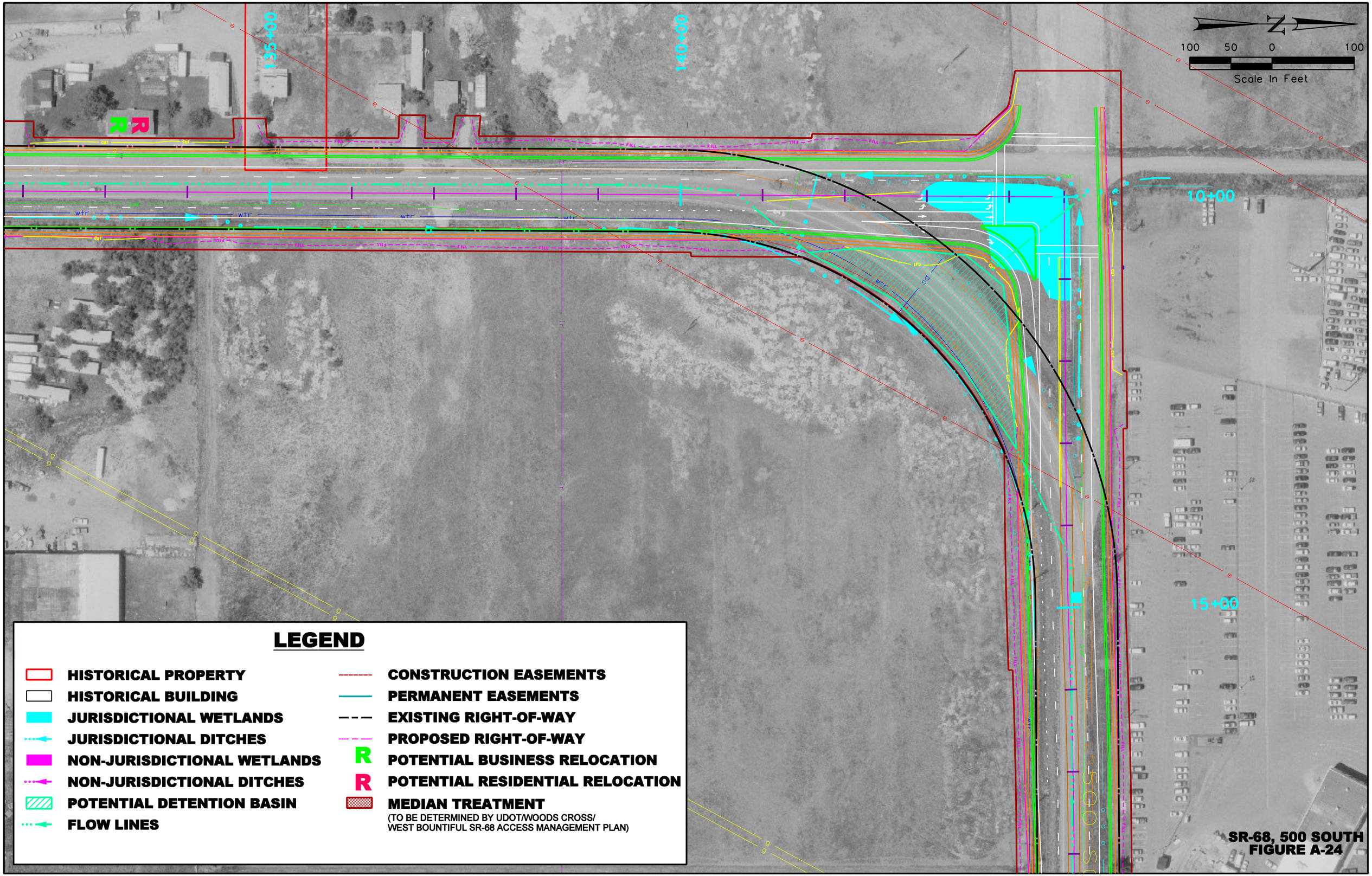
LEGEND

- HISTORICAL PROPERTY
- HISTORICAL BUILDING
- JURISDICTIONAL WETLANDS
- JURISDICTIONAL DITCHES
- NON-JURISDICTIONAL WETLANDS
- NON-JURISDICTIONAL DITCHES
- POTENTIAL DETENTION BASIN
- FLOW LINES
- CONSTRUCTION EASEMENTS
- PERMANENT EASEMENTS
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- R POTENTIAL BUSINESS RELOCATION
- R POTENTIAL RESIDENTIAL RELOCATION
- MEDIAN TREATMENT
  (TO BE DETERMINED BY UDOT/WOODS CROSS/ WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)

SR-68, 500 SOUTH
FIGURE A-21


1650 S 1800 W
105+00
110+00
115+00
100 50 0 100
Scale In Feet
SR-68 (REDWOOD ROAD)
1500 South
SKYPARK AIRPORT
16
LEGEND
HISTORICAL PROPERTY
HISTORICAL BUILDING
JURISDICTIONAL WETLANDS
JURISDICTIONAL DITCHES
NON-JURISDICTIONAL WETLANDS
NON-JURISDICTIONAL DITCHES
POTENTIAL DETENTION BASIN
FLOW LINES
CONSTRUCTION EASEMENTS
PERMANENT EASEMENTS
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
R POTENTIAL BUSINESS RELOCATION
R POTENTIAL RESIDENTIAL RELOCATION
MEDIAN TREATMENT
(TO BE DETERMINED BY UDOT/WOODS CROSS/
WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)
SR-68, 500 SOUTH
FIGURE A-22


N
100 50 0 100
Scale In Feet
120+00
125+00
130+00
24" Storm Drain
SR-68 (REDWOOD ROAD)
1180 SOUTH
24" Storm Drain
R
R
swr
wtr
sd
LEGEND
HISTORICAL PROPERTY
HISTORICAL BUILDING
JURISDICTIONAL WETLANDS
JURISDICTIONAL DITCHES
NON-JURISDICTIONAL WETLANDS
NON-JURISDICTIONAL DITCHES
POTENTIAL DETENTION BASIN
FLOW LINES
CONSTRUCTION EASEMENTS
PERMANENT EASEMENTS
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
R POTENTIAL BUSINESS RELOCATION
R POTENTIAL RESIDENTIAL RELOCATION
MEDIAN TREATMENT
(TO BE DETERMINED BY UDOT/WOODS CROSS/
WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)
SR-68, 500 SOUTH
FIGURE A-23


135+00
140+00
10+00
15+00
100 50 0 100
Scale In Feet
N
500 S
LEGEND
HISTORICAL PROPERTY
HISTORICAL BUILDING
JURISDICTIONAL WETLANDS
JURISDICTIONAL DITCHES
NON-JURISDICTIONAL WETLANDS
NON-JURISDICTIONAL DITCHES
POTENTIAL DETENTION BASIN
FLOW LINES
CONSTRUCTION EASEMENTS
PERMANENT EASEMENTS
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
R POTENTIAL BUSINESS RELOCATION
R POTENTIAL RESIDENTIAL RELOCATION
MEDIAN TREATMENT
(TO BE DETERMINED BY UDOT/WOODS CROSS/
WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)
SR-68, 500 SOUTH
FIGURE A-24

100 50 0 100

Scale In Feet

N

LEGEND

- HISTORICAL PROPERTY
- HISTORICAL BUILDING
- JURISDICTIONAL WETLANDS
- JURISDICTIONAL DITCHES
- NON-JURISDICTIONAL WETLANDS
- NON-JURISDICTIONAL DITCHES
- POTENTIAL DETENTION BASIN
- FLOW LINES
- CONSTRUCTION EASEMENTS
- PERMANENT EASEMENTS
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- R POTENTIAL BUSINESS RELOCATION
- R POTENTIAL RESIDENTIAL RELOCATION
- MEDIAN TREATMENT
  (TO BE DETERMINED BY UDOT/WOODS CROSS/ WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)

20+00

25+00

30+00

1524 W 500 S

SR-68, 500 SOUTH
FIGURE A-25

100 50 0 100

Scale In Feet

N

LEGEND

- HISTORICAL PROPERTY
- HISTORICAL BUILDING
- JURISDICTIONAL WETLANDS
- JURISDICTIONAL DITCHES
- NON-JURISDICTIONAL WETLANDS
- NON-JURISDICTIONAL DITCHES
- POTENTIAL DETENTION BASIN
- FLOW LINES
- CONSTRUCTION EASEMENTS
- PERMANENT EASEMENTS
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- R POTENTIAL BUSINESS RELOCATION
- R POTENTIAL RESIDENTIAL RELOCATION
- MEDIAN TREATMENT
  (TO BE DETERMINED BY UDOT/WOODS CROSS/ WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)

35+00

40+00

45+00

A1-A Drain

A1-A Drain

SR-68 (500 SOUTH)

1300 WEST

SR-68, 500 SOUTH
FIGURE A-26

LEGEND

- HISTORICAL PROPERTY
- HISTORICAL BUILDING
- JURISDICTIONAL WETLANDS
- JURISDICTIONAL DITCHES
- NON-JURISDICTIONAL WETLANDS
- NON-JURISDICTIONAL DITCHES
- POTENTIAL DETENTION BASIN
- FLOW LINES
- CONSTRUCTION EASEMENTS
- PERMANENT EASEMENTS
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- R POTENTIAL BUSINESS RELOCATION
- R POTENTIAL RESIDENTIAL RELOCATION
- MEDIAN TREATMENT
  (TO BE DETERMINED BY UDOT/WOODS CROSS/ WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)

100 50 0 100
Scale In Feet

N

50+00

55+00

00+00

R

R

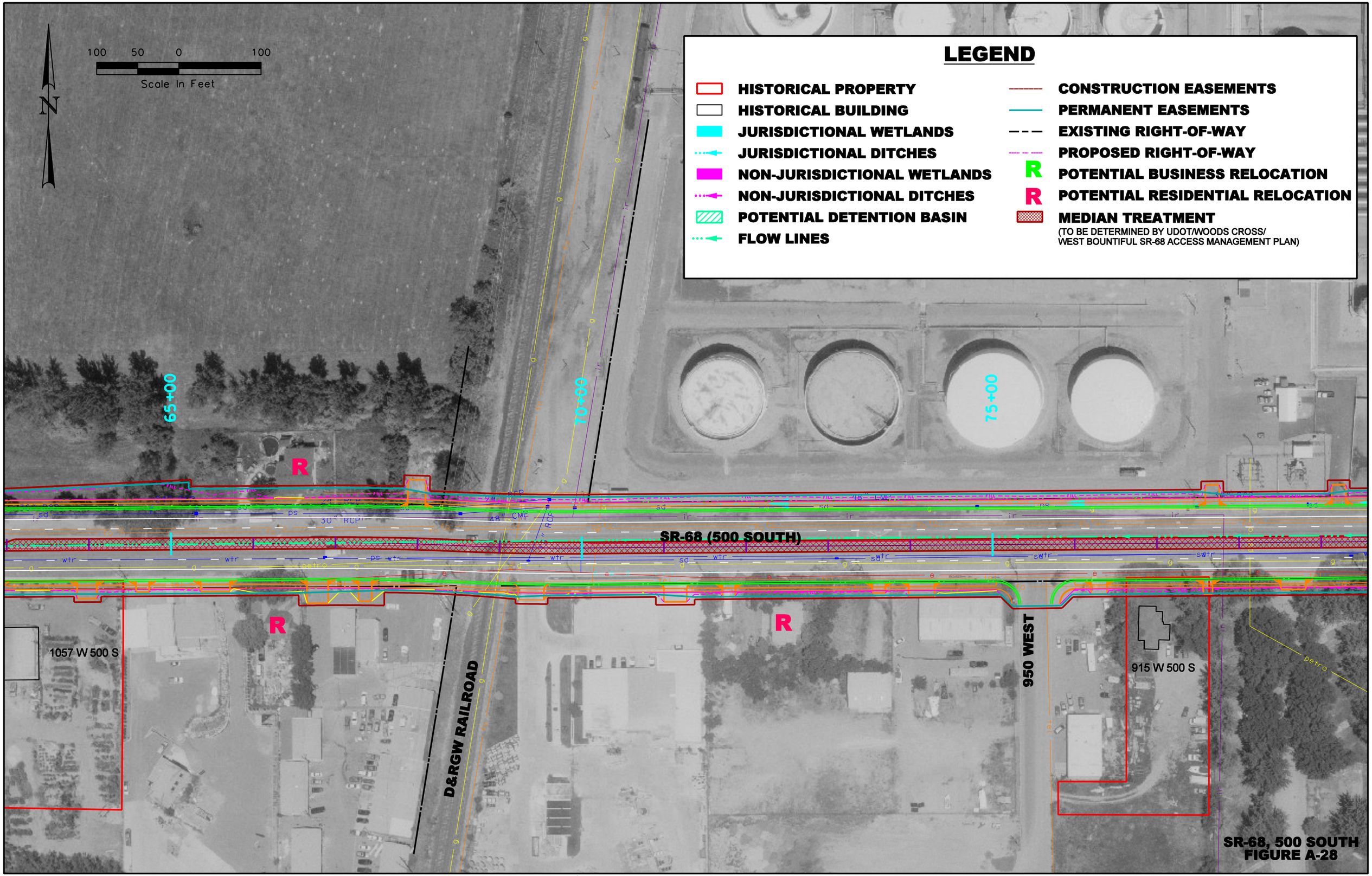
SR-68 (500 SOUTH)

1200 WEST

1100 WEST

36" Storm Drain

SR-68, 500 SOUTH
FIGURE A-27


100 50 0 100
Scale In Feet
N
LEGEND
HISTORICAL PROPERTY
HISTORICAL BUILDING
JURISDICTIONAL WETLANDS
JURISDICTIONAL DITCHES
NON-JURISDICTIONAL WETLANDS
NON-JURISDICTIONAL DITCHES
POTENTIAL DETENTION BASIN
FLOW LINES
CONSTRUCTION EASEMENTS
PERMANENT EASEMENTS
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
POTENTIAL BUSINESS RELOCATION
POTENTIAL RESIDENTIAL RELOCATION
MEDIAN TREATMENT
(TO BE DETERMINED BY UDOT/WOODS CROSS/
WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)
65+00
70+00
75+00
SR-68 (500 SOUTH)
1057 W 500 S
D&RGW RAILROAD
950 WEST
915 W 500 S
SR-68, 500 SOUTH
FIGURE A-28

LEGEND

- HISTORICAL PROPERTY
- HISTORICAL BUILDING
- JURISDICTIONAL WETLANDS
- JURISDICTIONAL DITCHES
- NON-JURISDICTIONAL WETLANDS
- NON-JURISDICTIONAL DITCHES
- POTENTIAL DETENTION BASIN
- FLOW LINES
- CONSTRUCTION EASEMENTS
- PERMANENT EASEMENTS
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- R POTENTIAL BUSINESS RELOCATION
- R POTENTIAL RESIDENTIAL RELOCATION
- MEDIAN TREATMENT
  (TO BE DETERMINED BY UDOT/WOODS CROSS/ WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)

100 50 0 100
Scale In Feet

N

800 WEST

UNION PACIFIC RAILROAD

772 W 500 S

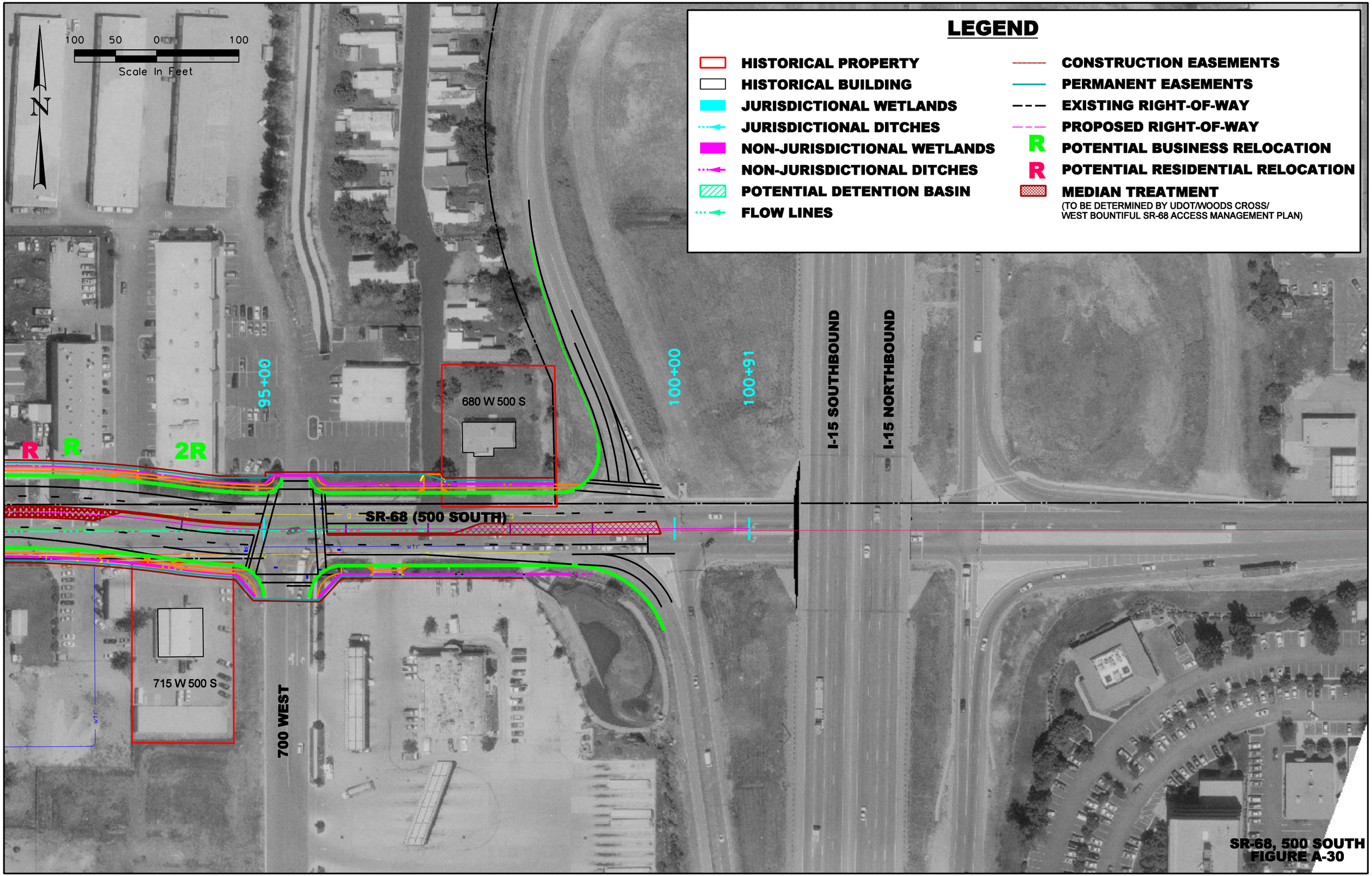
80+00

85+00

90+00

SR-68 (500 SOUTH)

SR-68, 500 SOUTH
FIGURE A-29


100 50 0 100
Scale In Feet
N
LEGEND
HISTORICAL PROPERTY
HISTORICAL BUILDING
JURISDICTIONAL WETLANDS
JURISDICTIONAL DITCHES
NON-JURISDICTIONAL WETLANDS
NON-JURISDICTIONAL DITCHES
POTENTIAL DETENTION BASIN
FLOW LINES
CONSTRUCTION EASEMENTS
PERMANENT EASEMENTS
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
R POTENTIAL BUSINESS RELOCATION
R POTENTIAL RESIDENTIAL RELOCATION
MEDIAN TREATMENT
(TO BE DETERMINED BY UDOT/WOODS CROSS/
WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)
680 W 500 S
715 W 500 S
SR-68 (500 SOUTH)
700 WEST
I-15 SOUTHBOUND
I-15 NORTHBOUND
95+00
100+00
100+91
R
R
2R
SR-68, 500 SOUTH
FIGURE A-30

LEGEND

- HISTORICAL PROPERTY
- HISTORICAL BUILDING
- JURISDICTIONAL WETLANDS
- JURISDICTIONAL DITCHES
- NON-JURISDICTIONAL WETLANDS
- NON-JURISDICTIONAL DITCHES
- POTENTIAL DETENTION BASIN
- FLOW LINES
- CONSTRUCTION EASEMENTS
- PERMANENT EASEMENTS
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- R POTENTIAL BUSINESS RELOCATION
- R POTENTIAL RESIDENTIAL RELOCATION
- MEDIAN TREATMENT
  (TO BE DETERMINED BY UDOT/WOODS CROSS/ WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)

100 50 0 100
Scale In Feet

N

800 WEST

UNION PACIFIC RAILROAD

5000+00

5005+00

772 W 500 S

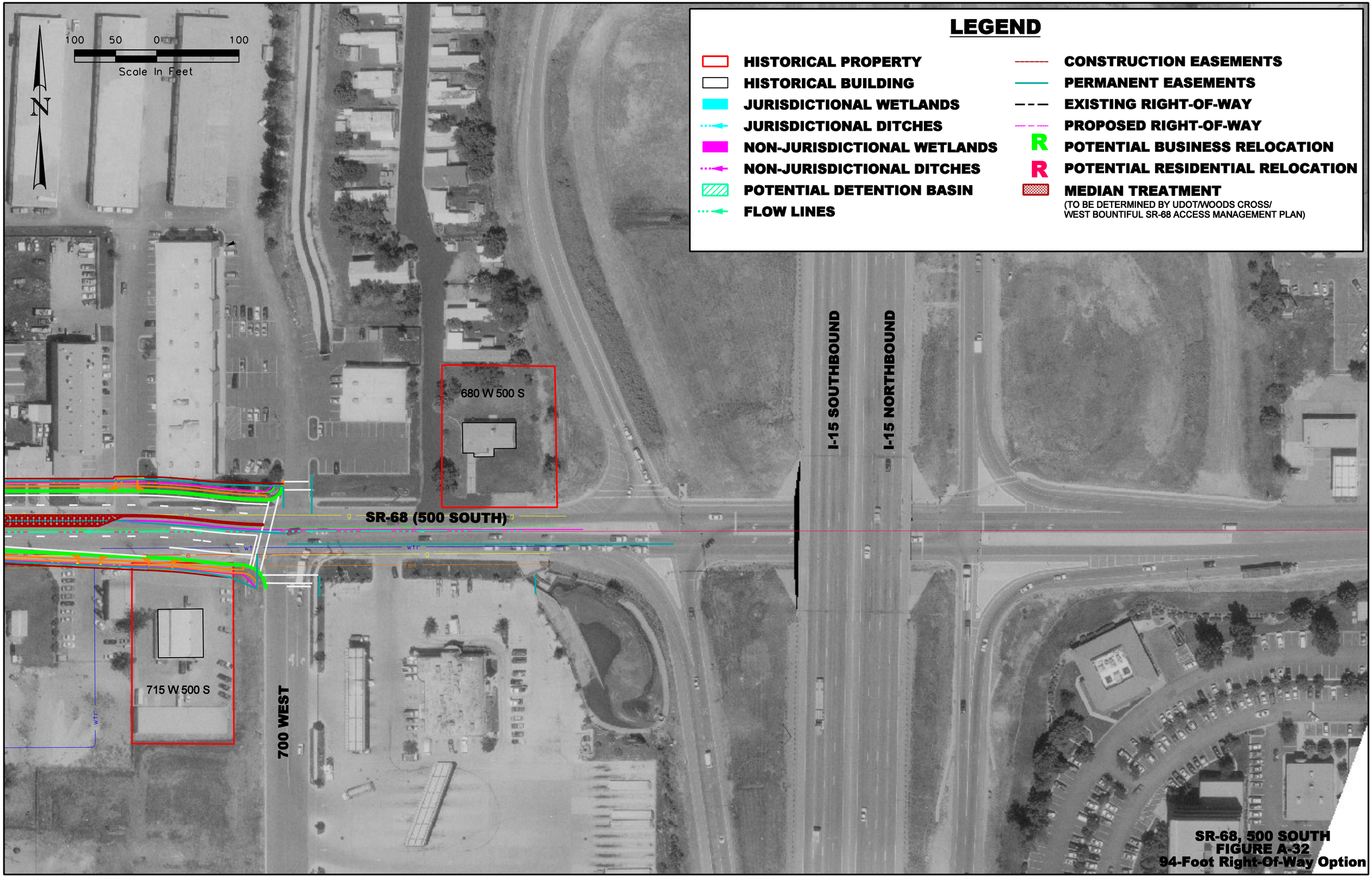
SR-68 (500 SOUTH)

30" RCP

48" CMP

8" RCP

SR-68, 500 SOUTH
FIGURE A-31
94-Foot Right-of-Way Option


100 50 0 100
Scale In Feet
N
680 W 500 S
715 W 500 S
SR-68 (500 SOUTH)
700 WEST
I-15 SOUTHBOUND
I-15 NORTHBOUND
LEGEND
HISTORICAL PROPERTY
HISTORICAL BUILDING
JURISDICTIONAL WETLANDS
JURISDICTIONAL DITCHES
NON-JURISDICTIONAL WETLANDS
NON-JURISDICTIONAL DITCHES
POTENTIAL DETENTION BASIN
FLOW LINES
CONSTRUCTION EASEMENTS
PERMANENT EASEMENTS
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
R POTENTIAL BUSINESS RELOCATION
R POTENTIAL RESIDENTIAL RELOCATION
MEDIAN TREATMENT
(TO BE DETERMINED BY UDOT/WOODS CROSS/
WEST BOUNTIFUL SR-68 ACCESS MANAGEMENT PLAN)
SR-68, 500 SOUTH
FIGURE A-32
94-Foot Right-Of-Way Option

Appendix B

Appendix B:

Figure B-1

State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

DEPARTMENT OF TRANSPORTATION

JOHN R. NJORD, P.E.
Executive Director

CARLOS M. BRACERAS, P.E.
Deputy Director

May 12, 2006

Mayor James Behunin
West Bountiful City
550 N 800 W
West Bountiful, UT 84087

Dear Mayor Behunin:

This letter is a follow-up to the SR-68 (500 South) Transportation and Infrastructure Workshop held at the West Bountiful City Council Chambers on March 21, 2006. We thank you for your time and effort in attending and participating in this workshop.

Attached is a summary of the workshop, attendee contact information, and a chart outlining key milestones for completing the SR-68 (500 South) environmental document. At the workshop, it was concluded that a grade separation over the Union Pacific Railroad (UPRR) tracks and realignment the north leg of 800 West would exceed, by four times, the cost of the other alternatives identified to meet the needs of the corridor. The current funding does not cover the estimated cost of this alternative. Such improvements, if desired, could be pursued in the future by local agencies (see attached flow chart for an outline of the necessary actions to obtain a grade separation over UPRR and Commuter Rail tracks).

Our analysis has determined that a five-lane corridor with an at-grade crossing at the UPRR will meet the capacity and mobility needs of the project area. As a result, the current environmental document will proceed with the evaluation of this alternative. The width and alignment of this alternative are currently being analyzed by the project team. In addition, the Utah Department of Transportation (UDOT) will evaluate the need for a signal at 700 West and 800 West.

As discussed at the conclusion of the workshop, your concurrence with the above-mentioned project directives will be helpful in completing of the environmental document. Please check the appropriate boxes below, sign, date, and return this letter to the project team.

Again, we sincerely appreciate your participation in the workshop. If you have additional questions, please contact me at (801) 620-1685 or cmace@utah.gov.

Sincerely,

Charles Mace, P.E.
Project Manager; SR-68, 500 South Project
Utah Department of Transportation

Having reviewed the letter above, the following agency (by signing this document):

☒ West Bountiful City ☐ Woods Cross City

☐ Concurs (without comments) ☒ Concurs (with minor comments) ☐ Does Not Concur

Comments/Reasons for Non-Concurrence:
We understand if traffic volumes increase separate grade crossing will be needed. Also, we need to watch the rate of accidents at rail crossing.

Additional Information Needed:

Signature: [signature] Date: June 1st 2006

State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

DEPARTMENT OF TRANSPORTATION

JOHN R. NJORD, P.E.
Executive Director

CARLOS M. BRACERAS, P.E.
Deputy Director

May 12, 2006

Mayor Kent Parry
Woods Cross City
1555 S 800 W
Woods Cross, UT 84087

Dear Mayor Parry:

This letter is a follow-up to the SR-68 (500 South) Transportation and Infrastructure Workshop held at the West Bountiful City Council Chambers on March 21, 2006. We thank you for your time and effort in attending and participating in this workshop.

Attached is a summary of the workshop, attendee contact information, and a chart outlining key milestones for completing the SR-68 (500 South) environmental document. At the workshop, it was concluded that a grade separation over the Union Pacific Railroad (UPRR) tracks and realignment the north leg of 800 West would exceed, by four times, the cost of the other alternatives identified to meet the needs of the corridor. The current funding does not cover the estimated cost of this alternative. Such improvements, if desired, could be pursued in the future by local agencies (see attached flow chart for an outline of the necessary actions to obtain a grade separation over UPRR and Commuter Rail tracks).

Our analysis has determined that a five-lane corridor with an at-grade UPRR crossing will meet the capacity and mobility needs of the project area. As a result, the current environmental document will proceed with the evaluation of this alternative. The width and alignment of this alternative are currently being analyzed by the project team. In addition, the Utah Department of Transportation (UDOT) will evaluate the need for a signal at 700 West and 800 West.

As discussed at the conclusion of the workshop, your concurrence with the above-mentioned project directives will be helpful in completing of the environmental document. Please check the appropriate boxes below, sign, date, and return this letter to the project team.

Again, we sincerely appreciate your participation in the workshop. If you have additional questions, please contact me at (801) 620-1685 or cmace@utah.gov.

Sincerely,

Charles Mace, P.E.
Project Manager; SR-68, 500 South Project
Utah Department of Transportation

Having reviewed the letter above, the following agency (by signing this document):

☐ West Bountiful City ☒ Woods Cross City

☐ Concurs (without comments) ☒ Concurs (with minor comments) ☐ Does Not Concur

Comments/Reasons for Non-Concurrence: Woods Cross City has the understandy that UDOT will support Woods Cross City and West Bountiful's efforts to pursue funding for a separated grade crossy at 700 west 500 south
Additional Information Needed:
Signature: _____ Date: 8/23/06

Alignment Impact Summary

Analyzed Alternative Typical Sections & Impacts

Typical Sections		Impacts										
		Residential		Business		Vacant	Environmental					
Typical Section Width	*Direction of Shift*	*Strip Takes*	*Relocations*	*Strip Takes*	*Relocations*	*Strip Takes*	*Historic**	*Wetlands*	*Archeological*	Notes	Progressed Typical Sections	Notes
2600 South to 500 South (Redwood Road)												
100 Feet	Center	0	0	0	0	0	0	9	0	Existing 100' ROW	STOP	Existing ROW is 100'
101.5 Feet	West	6	0	7	1	12	6	4	0			
101.5 Feet	East	0	0	24	2	14	1	5	0			
101.5 Feet	Center	9	0	29	3	26	7	9	0		STOP	101.5 Width will allow for meandering sidewalk as requested by Woods Cross City
101.5 Feet	Meander	3	0	3	0	13	3	6	0			
106 Feet	West	6	0	7	1	14	6	4	0			
106 Feet	East	0	0	24	2	16	1	5	0			
106 Feet	Center	9	0	29	3	28	7	9	0		STOP	ROW is outlined in Woods Cross Master Plan
106 Feet	Meander	3	0	3	0	15	3	7	0			
110 Feet	West	12	1	2	1	14	6	4	0			
110 Feet	East	0	0	24	2	16	1	5	0			
110 Feet	Center	9	1	29	3	28	7	9	0		STOP	ROW Width is R1 Standard
110 Feet	Meander	6	1	6	1	17	3	8	0			
Redwood Road to 1100 West												
100 Feet	Center	0	0	0	0	0	0	2	0	Existing 100' ROW	STOP	Existing ROW is 100'
106 Feet	North	0	1	9	0	8	1	2	0			
106 Feet	South	4	11	1	1	6	0	0	0			
106 Feet	Center	6	12	11	0	10	1	2	0		STOP	
106 Feet	Meander	4	0	4	1	12	2	2	0			
110 Feet	North	1	1	14	0	5	1	2	0			
110 Feet	South	4	11	1	1	6	0	0	0			
110 Feet	Center	6	12	19	1	10	1	2	0		STOP	ROW Width is R1 Standard
110 Feet	Meander	4	1	9	0	7	1	2	0			
1100 West to 800 West												
100 Feet	Center	0	0	0	0	0	0	0	0	Existing 100' ROW	STOP	Existing ROW is 100'
106 Feet	North	0	1	2	0	3	0	0	0			
106 Feet	South	3	3	6	2	2	2	0	0			
106 Feet	Center	4	3	12	0	5	2	0	0	Utility Impacts @ Refinery	STOP	
106 Feet	Meander	1	4	5	0	1	1	0	0			
110 Feet	North	0	1	5	0	3	0	0	0	Utility Impacts @ Refinery		
110 Feet	South	1	4	5	4	3	2	0	0			
110 Feet	Center	3	3	10	3	6	2	0	0		STOP	ROW Width is R1 Standard
110 Feet	Meander	1	5	11	0	6	1	0	0			
800 West to 700 West												
83 Feet	North	1	1	3	0	0	1	0	0			
83 Feet	South	0	0	1	2	0	1	0	0			
83 Feet	Center	1	1	5	1	0	2	0	0		STOP	
83 Feet	Meander	1	1	6	0	0	2	0	0			
94 Feet	North	0	2	3	0	0	1	0	0			
94 Feet	South	0	0	2	1	0	0	0	0	Fill Station Strip Take		
94 Feet	Center	0	2	6	0	0	1	0	0		STOP	
94 Feet	Meander	0	2	7***	0	0	1	0	0			
100 Feet	North	0	2	0	3	0	1	0	0	Strip Mall Relocation		
100 Feet	South	0	0	1	2	0	1	0	0	Fill Station		
100 Feet	Center	0	2	1	5	0	2	0	0		STOP	
100 Feet	Meander	0	2	3	4	0	2	0	0			
106 Feet	North	0	2	0	3	0	1	0	0	Strip Mall Relocation		
106 Feet	South	0	0	1	2	0	1	0	0	Fill Station Relocation		
106 Feet	Center	0	2	1	5	0	2	0	0	Fill Station & Strip Mall Relocation	STOP	
106 Feet	Meander	0	2	3	4	0	2	0	0			
110 Feet	North	1	0	0	3	0	1	0	0	Strip Mall Relocation		
110 Feet	South	0	0	1	3	0	1	0	0	Fill Station & Historical Mech. Shop	STOP	ROW Width is R1 Standard; Meander to avoid filling station; historic property total take
110 Feet	Center	1	0	1	5	0	2	0	0	Fill Station & Strip Mall Relocation		
110 Feet	Meander	1	0	3***	4	0	2	0	0			
700 West to I-15 Southbound Ramps												
83 Feet	North	1	0	0	0	0	0	0	0			
83 Feet	South	0	0	1	0	0	0	0	0			
83 Feet	Center	1	0	1	0	0	0	0	0		STOP	
83 Feet	Meander	1	0	0	0	0	0	0	0			
100 Feet	North	1	0	0	0	0	0	0	0			
100 Feet	South	0	0	1	0	0	0	0	0			
100 Feet	Center	1	0	1	0	0	0	0	0		STOP	
100 Feet	Meander	1	0	1	0	0	0	0	0			
106 Feet	North	1	0	0	0	0	0	0	0			
106 Feet	South	0	0	1	0	0	0	0	0			
106 Feet	Center	1	0	1	0	0	0	0	0		STOP	
106 Feet	Meander	1	0	1	0	0	0	0	0			
110 Feet	North	1	0	0	0	0	0	0	0			
110 Feet	South	0	0	1	0	0	0	0	0			
110 Feet	Center	1	0	1	0	0	0	0	0		STOP	ROW Width is R1 Standard; moving south will avoid residential strip take; saves sentimental tree in front yard
110 Feet	Meander	1	0	2	0	0	0	0	0			

Choose Preferred Typical Section Width and Alignment

*Historic impacts are also counted in strip takes and relocations

***To accommodate the location of the newly constructed UTA/Commuter Rail switch, the number of business strip takes for the 110-foot option from three (previously shown) to three and for the 94-foot option, business strip takes increased from six (previously shown) to seven.

Figure B-2

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UDOT CONNECTING COMMUNITIES

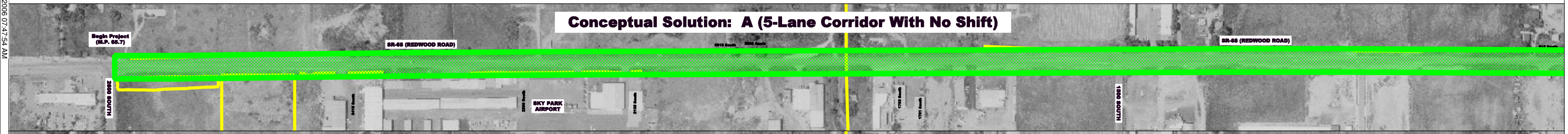
0 100 200 300 400 500
Scale in Feet

CONCEPTUAL SOLUTIONS

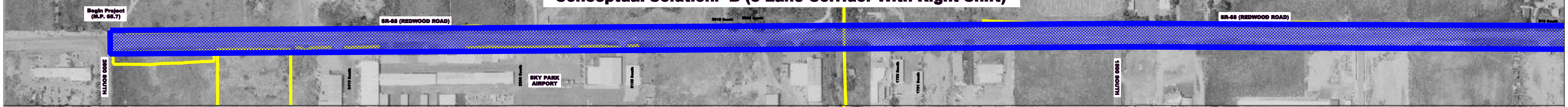
0 100 200 300 400 500
Scale in Feet

SR-68
2600 South
to I-15 in Davis County

Conceptual Solution: A (5-Lane Corridor With No Shift)



Conceptual Solution: B (5-Lane Corridor With Right Shift)



Conceptual Solution: C (5-Lane Corridor With Left Shift)

Conceptual Solution: D (5-Lane Corridor With Meander Shift)

FIGURE B-3a

UDOT CONNECTING COMMUNITIES

0 100 200 300 400 500
Scale In Feet

CONCEPTUAL SOLUTIONS

0 100 200 300 400 500
Scale In Feet

SR-68
2600 South
to I-15 in Davis County

Conceptual Solution: A (5-Lane Corridor With No Shift)

Conceptual Solution: B (5-Lane Corridor With Right Shift)

Conceptual Solution: C (5-Lane Corridor With Left Shift)

Conceptual Solution: D (5-Lane Corridor With Meander Shift)

FIGURE B-3b

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UDOT CONNECTING COMMUNITIES

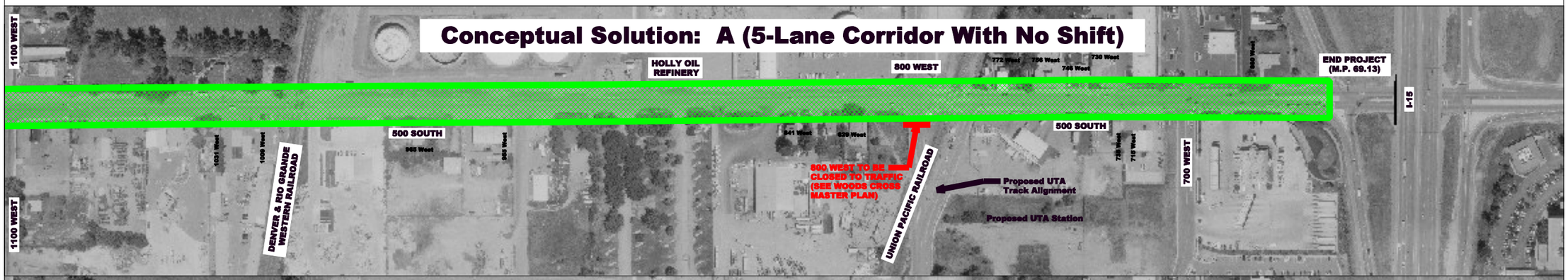
0 100 400 300 400 500
Scale in Feet

CONCEPTUAL SOLUTIONS

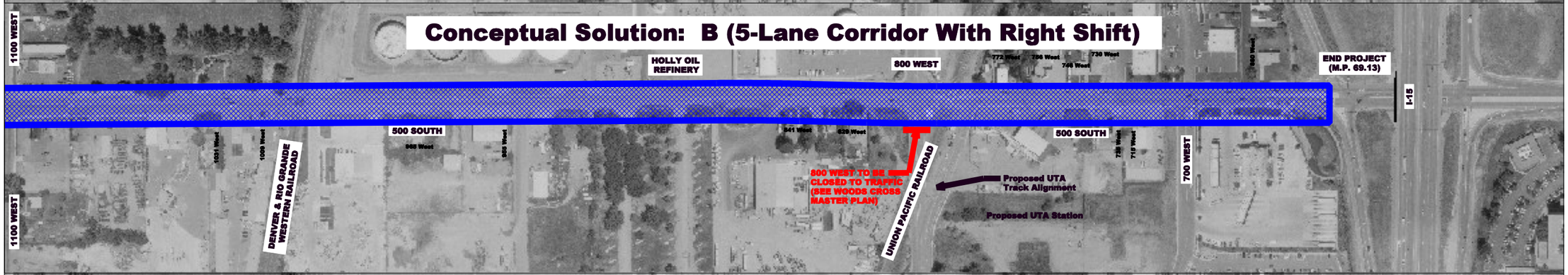
0 100 400 300 400 500
Scale in Feet

SR-68
2600 South
to I-15 in Davis County

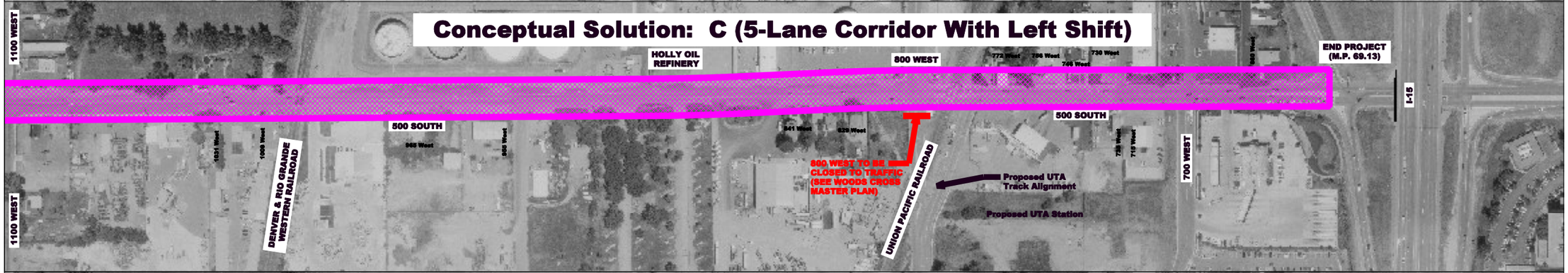
Conceptual Solution: A (5-Lane Corridor With No Shift)



Conceptual Solution: B (5-Lane Corridor With Right Shift)



Conceptual Solution: C (5-Lane Corridor With Left Shift)



Conceptual Solution: D (5-Lane Corridor With Meander Shift)

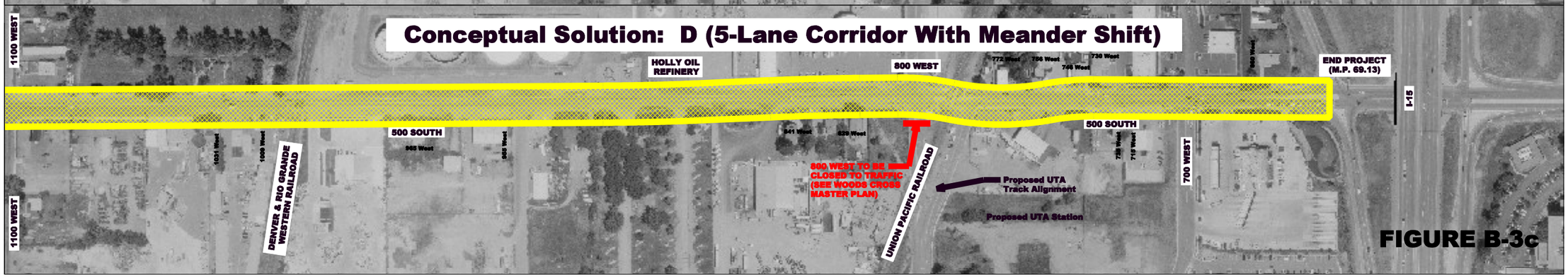


FIGURE B-3c